MIDWEST MARKETING ISSUE
Pages 9-16

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Irrigation Needs High Fertilizer Rates, USDA Says

Proper Fertilization Increases Water-Use Efficiency of Crops

WASHINGTON—Opportunities for expanded plant food sales in the growing areas of supplemental irrigation are pointed up in a statement by the U.S. Department of Agriculture.

Before a farmer invests in supplemental irrigation he should be willing and able to use high rates of fertilizer, the department said Oct. 10.

Research indicates that crop response to water management through irrigation or drainage is closely associated with soil fertility management. Scientists of USDA's Agricultural Research Service emphasize that no single soil and water management practice, by itself, will insure high crop yields. Such practices—including supplemental irrigation—must be integrated into the farming system for maximum benefit.

Proper fertilization can markedly increase the water-use efficiency of

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Ground-Breaking Held for California Anhydrous Plant

LATHROP, CAL.—Ground-breaking ceremonies were held near here Oct. 12 for construction of a 100-ton-a-day anhydrous ammonia plant to be erected by California Ammonia Co.

Lowell W. Berry, chairman of the board, and Bernell Harlan, president, said that Macco Corp., Los Angeles, has been awarded the contract for engineering and erection of the plant.

The plant will cost about $4.8 million, and construction is expected to be completed in October, 1958.

The board of directors of the firm has approved a management contract with the Best Fertilizers Co. for expediting and supervising the negotiations with the contractor and for a 10-year management contract for operating the plant.

The plant site is adjacent to the Best plant.

Officials of the firm said that the company is a joint venture between farmer consumers and industry which assures a captive market for the entire production of the plant. More than 540 farmers have subscribed, and the board represents stockholders located throughout the San Joaquin and Sacramento valleys.

The board of directors consists of Lawrence Baldwin, Bakersfield; Lloyd A. Harnish, Fresno; Adolph Merwin, Clarksburg; K. R. Nutting, Salinas; Dave Petz, Tracy; C. Martin Wilmarth, Grimes; Mr. Berry, Oakland; Dr. W. L. Garman, Modesto; A. B. Horner, Modesto; F. B. Hornibrook, Stockton, and C. W. Peterson, Tracy.

The plant will be designed to use the reforming of steam and methane as a source of raw material with purification of the gas stream by the nitrogen wash process and with low pressure synthesis of ammonia.

Salesmanship Called Education in Action By Northwest Group

By LAWRENCE A. LONG
Editor of Croplife

SUN VALLEY, IDAHO—Reports on the group's activities during the past year and talks by a banker, an educator, a fertilizer technologist, and representatives of two other associations featured the program of the eighth annual convention of the Pacific Northwest Plant Food Assn. at the Challenger Inn here Oct. 3-5. The group also elected officers, including three new members of the board of directors as representatives of the nitrogen, phosphorus and potash producers.

The meeting, held in the mountainous setting of this skiing resort, attracted some 250 fertilizer industry persons from principally the states of Washington, Oregon, Idaho, Montana and Utah. Conventioneers were also present, however, from many other parts of the country.

Ben McCollum, J. R. Simplot Co., Pocatello, Idaho, president of the association, opened the convention, and Karl Baur, Portland, Ore., acted as chairman of the first session.

Grant Braun, American Potash Institute, Portland, Ore., chairman of the Soil Improvement Committee, gave a summary of soil testing results made during the past year, and pointed out that the potentials for increased fertilizer use, as revealed by the tests, are tremendous. Increases in use from 600 to 1,000% could well be practiced, he said.

Mr. Braun told about how the soil tests were conducted, through cooperation of local people, including dealers, county agents and the colleges. Committees were selected locally and comprised bankers, dealers, farmers and others well known in their communities, he said, with the fertilizer industry itself apparent-

(Continued on page 20)

Three More States Placed Under Soybean Nematode Quarantine

WASHINGTON—The U.S. Department of Agriculture Oct. 10 added Arkansas, Kentucky and Mississippi to the list of states quarantined because of the presence of the soybean cyst nematode.

Areas to be regulated in the 3 states will be limited to localities infested or likely to be infested with the pest. These comprise the delta land between the Mississippi River levee and the adjoining state lines in Crittenden and Mississippi counties, Arkansas, and DeSoto County, Mississippi, plus an individual farm each in Mississippi County, Arkansas, and Fulton County, Kentucky.

USDA Designates 1958 Commercial Corn Area

WASHINGTON—The U.S. Department of Agriculture Oct. 7 designated 932 counties in 26 states as the commercial corn-producing area for 1958. The designated area includes two more states (Florida and South Carolina) and 38 additional counties.

The additional 38 counties include nine in Alabama, five in Florida, 14 in Georgia, two in Michigan, one in Missouri, two in South Carolina and five in Virginia.

Merck Reduces Price Of Gibberellin Product

RAHWAY, N.J.—The Chemical Division of Merck & Co., Inc. here has announced a reduction in price of from $10 to $4 a gram for "Gibrel," its gibberellin product. The firm said the reduction has been made possible by substantial improvements in the manufacturing process and by increased demands that are expected as a result of new research findings.

TVA Expense

WASHINGTON—Tennessee Valley Authority said Oct. 6 that its fertilizer and munitions development work during fiscal 1957 was carried on at a net expense of $2,642,656. This compares with $1,127,746 during the 1956 fiscal year.

Growing Nematode Loss in Midwest Cited at Workshop

ST. LOUIS—The nematode was blamed here Oct. 9 for causing midwestern farmers to lose "many millions of dollars in crops each year."

Reporting on the evidence of nematode destruction were a panel of scientists from midwestern universities and the U.S. Department of Agriculture. Speaking at the opening of a two-day workshop, sponsored by Shell Chemical Corp. and attended by more than 200 agriculturalists, the panel hit these major points:

1. Some species of nematodes (there are more than 1,000) feed off every plant that grows, including lawns, shrubs and flowers.

2. One infestation of nematodes in the Midwest has become serious enough to warrant federal and state quarantines of the infested fields.

3. So far midwestern studies have proved that nematodes are the cause of severe damage to soybeans, cotton, melons, vegetables and strawberries.

(Continued on page 5)

BELTWIDE PRODUCTION MEETING

Need for Chemical Research to Aid the Cotton Farmer Stressed at Conference

SHREVEPORT—A soil scientist told the Beltwide Cotton Mechanization Conference here recently that cotton growers should pay more attention to the amount and type fertilizers they use.

George E. Smith, University of Missouri soils department, pointed out that except for the cost of the fertilizer, it costs little more to bring a two-bale crop to time of harvest than one which produces only 300 lb. of lint. "The investment in the crop can no longer be jeopardized by an insufficient or improper balance of plant nutrients," he said.

Dr. Smith said that recent research work demonstrated that the placement of plant food slightly below and two to three inches to the side of the seed will have the most desired "starter" effect. Even with the best machines available, he said, it is not possible to apply sufficient nutrients close to the row at the time of planting to secure more than a "starter" effect. "Greater amounts applied deeper are usually required for the most profitable yields," he reported.

Dr. Smith reported that on most soils mineral treatments must be stepped up to balance the greater quantities of nitrogen now being used. The residual acidity from most forms of nitrogen, he said, calls for greater use of lime. "Though cotton has a low calcium requirement," he stated, "there is an increasing number of reports of failure to obtain the expected response from fertilizers because soils were too acid to obtain efficient utilization of other elements."

The Missouri scientist said there is

(Continued on page 8)

European Research Indicates Promising Future for Forest Tree Nutrition in U.S.

WASHINGTON—Fertilizing forest trees to speed up wood production and improve timber resources may have a bright future in America, if forest fertilization research now under way in Europe is any barometer.

This is the opinion of Dr. E. T. York of the American Potash Institute, who recently toured European research centers of forest tree nutrition to study their methods and results firsthand.

The 10-nation tour—of West Germany, France, Switzerland, Austria, Denmark, Sweden, Holland, Belgium, England, and Scotland—revealed several areas where the use of fertilizer is becoming standard practice in forestry under certain conditions.

Dr. York emphasized that many problems make the use of fertilizers in forestry more complex than their use with most agricultural crops.

"But," he added, "these problems are by no means insurmountable—in fact, answers to many of them are already being developed through research. Such research—on how to use fertilizers properly under conditions that insure economic responses—must precede the use of fertilizer on a large scale in practical forest management."

Although in its infancy and on a more limited scale than European work, recent U.S. research indicated that under certain conditions American forest trees, like agricultural crops, will respond to fertilizers. The Institute now supports forest fertilization research in New York and Florida, with other work planned.

Europe was chosen for the study because its forest lands receive intensive management and its researchers and practical foresters have studied forest tree nutrition for many years.

Since World War II, interest in forest tree fertilization has risen in Europe as a means of speeding up timber resources severely reduced by the war. And many countries now conduct "excellent research programs in forest tree nutrition."

Observing conditions under which best fertilizer responses occur, Dr. York was impressed by some of the problems which research must answer before forest fertilization can be broadly applied.

Among them was the problem of determining specific nutrient needs of different tree species growing under widely different environmental conditions.

"Although soil tests will help," he emphasized, "foliar analyses now seem the best way to determine the nutrient status and needs of growing trees. In fact, nutrient levels in both soils and foliage must be carefully correlated with the response of trees to fertilizers. We must find not only the ratio, forms and amounts of nutrients needed, but also how best the fertilizer can be added.

"The problem of placing the fertilizer so the plants can utilize it most efficiently is a big one. In new plantings or young stands, fertilizer not properly used may stimulate the competition from weeds or undesirable tree species."

Limitations in the use of mechanized application equipment in established forest areas also present difficulties, Dr. York said.

Finally, long-term economics—the long-term nature of an investment in fertilizers used in forestry—emphasize the need for careful economic evaluation of the returns from such work, Dr. York pointed out.

The Institute will issue a booklet on the new field of forest fertilization based on its European study and the latest findings on the subject.

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Oregon Firm Develops Fumigant Injector

EUGENE, ORE.—A local firm has developed a new device for injecting liquid fumigants into the soil for control of weeds and soil pests.

A blade injector, which is manufactured by Rear's Farm Supply, may be used as an attachment for a wheel tractor. It was developed in cooperation with Stauffer Chemical Co. primarily to apply Stauffer's new chemical, Vapan.

The implement consists of a horizontal frame which carries two rows of vertical blades, each with a tube welded to it. The tubes are connected to a pipe which carries the liquid solution—pumped under pressure—from a drum mounted on the injector frame.

A water-filled roller, trailed behind the injector, compacts the soil—providing a seal—so that the gas liberated in the soil can do its work in effective manner.

Gnats Attacked with 20,000 Gal. of DDT

SACRAMENTO—Twenty thousand gallons of DDT have been poured into Clear Lake by the Lake County Mosquito Abatement District in an attempt to eliminate gnats which have become a problem for nearby residents.

Hal Brydon, district entomologist, said a survey indicates there are 97 billion gnats on the lake.

The insecticide was dumped from six barges by a force of 25 men at the rate of one part for every 45 million parts of water. Clear Lake was last treated for gnats three years ago.

Theodore L. Smith Joins Michigan Chemical

SAINT LOUIS, MICH. — Michigan Chemical Corp. has recently added Theodore L. Smith to its research staff at Saint Louis, Mich. The appointment has been announced by Dr. Dwight Williams, company research director.

Mr. Smith is a 1957 graduate of Alma College, Alma, Mich., with a bachelor of science degree in chemistry, and is a member of the American Chemical Society. During his college career he was employed at Michigan Chemical as a laboratory assistant. Mr. Smith is assigned to the company's organic research laboratories.

CHEMIST NAMED

STATE COLLEGE, N.M. — James H. Muntz, formerly a student and research associate at the Universities of Kentucky and Illinois, has been appointed assistant state chemist with the New Mexico State Department of Agriculture. He will assist Lewis T. Elliott, state chemist, with analysis work on fertilizers, feeds, insecticides, and will also help to develop spectrographic analysis work.

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INSECT AND PLANT DISEASE NOTES

Mexican Bean Beetle Attacks Soybeans in S. C.

CLEMSON, S.C. — The Mexican bean beetle is much more abundant than usual on soybeans and is moving to fall snap beans, some fields having already received considerable damage. The southern blight has been noticed on soybeans in Marlboro County. Nematodes, velvetbean caterpillar and fungus have attacked soybeans in various sections of South Carolina.

Screwworm attacks in livestock are still being reported, especially from Marion and Sumter counties.

Caterpillars are damaging grasses and an investigation is underway on the cause of dying of coastal and lawn types of Bermuda grasses.

One acre of half-grown turnips in Chesterfield County was badly infested with leaf spot. The cabbage looper has been found in moderate and heavy numbers on unprotected cole crops. — W. C. Nettles, L. M. Sparks and F. H. Smith.

Fall Armyworm Attacks Continue in Virginia

BLACKSBURG, VA. — Fall armyworm outbreaks are continuing to occur in small grains, grasses, milo, and other crops in many parts of Virginia.

Rye and grass mixtures for winter pastures are being damaged severely. Infestations were spotted in various counties. If the worms are full size they will soon be pupating and it is doubtful if there will be enough time for another generation to do any damage.

Corn earworms are still present in many peanut and soybean fields in eastern and southeastern Virginia. Late beans are likely to be damaged.

The first known large outbreak of the velvetbean caterpillar in Virginia is also reported. The caterpillars are feeding on the foliage of soybeans in many fields, and on peanuts in some areas.—Arthur P. Morris.

Cotton Leafworms Prevalent in Florida

GAINESVILLE, FLA. — Large catches of cotton leafworms were reported from western Florida. The tropical sod webworm has been reported infesting numerous St. Augustine grass lawns in the Gainesville area.

The black citrus aphid is reported infesting ornamentals in the central part of the state.

A second infestation of the imported fire ant has been found 2¼ miles southeast of the initial find near Lutz, Hillsborough County. The ants were found in commercial citrus groves, fallow fields and in yards of two residences.

The second forest insect pest survey is underway at the present time. The state plant board is cooperating with the state forestry department in making the surveys. To date 220,000 acres have been surveyed from the air by plane. The plane is flown at a speed of 80 m.p.h., 500 ft. high and at 5-mile intervals. The two observers are observing 10 square chains each side of the flight lines.—H. A. Denmark.

Various Insects Attack New Mexico Crops

STATE COLLEGE, N.M.—Cotton aphids are beginning to build up in cotton in light, spotty infestations in Eddy, Chaves, Dona Ana, Lea, and Luna counties. No heavy infestations have been reported.

Cotton leafworms are still causing damage in many fields where control measures weren't used. Some fields have been completely defoliated and the worms have damaged green bolls. Heaviest infestations are in Curry, Quay, Roosevelt, Lea, and Dona Ana counties. All other cotton growing counties have spotty infestations ranging from light to very heavy.

Cotton bollworms can still be found in most cotton fields in the state. Reinfestations in treated fields are slowing down considerably.

Spider mites are building up heavily, but spotty infestations in cotton in Dona Ana and Chaves counties.

Orchard mites are building up heavy infestations in apple orchards in Rio Arriba, Santa Fe, San Juan, Bernalillo, Valencia, Sandoval, and Lincoln counties. Clover mite eggs are very abundant and McDaniel mites are severely webbing trees in many orchards where early control measures weren't used.

Woolly apple aphids are heavy in many apple orchads in the state.

San Jose scale infestations are heavy in several apple orchards in Rio Arriba and Santa Fe counties. Much of the fruit has been severely discolored.

Cabbage loopers continue to build up in fall lettuce in Dona Ana, Eddy, Valencia and Bernalillo counties.—John Durkin.

North Carolina Reports Screwworms Active

RALEIGH, N.C.—Screwworms are active over most of North Carolina, with serious infestations being found in some areas. Velvet bean caterpillars are also on the move in the eastern half of the state, attacking many crops, according to H. E. Scott, extension entomologist. He says, however, that the damage is generally light.

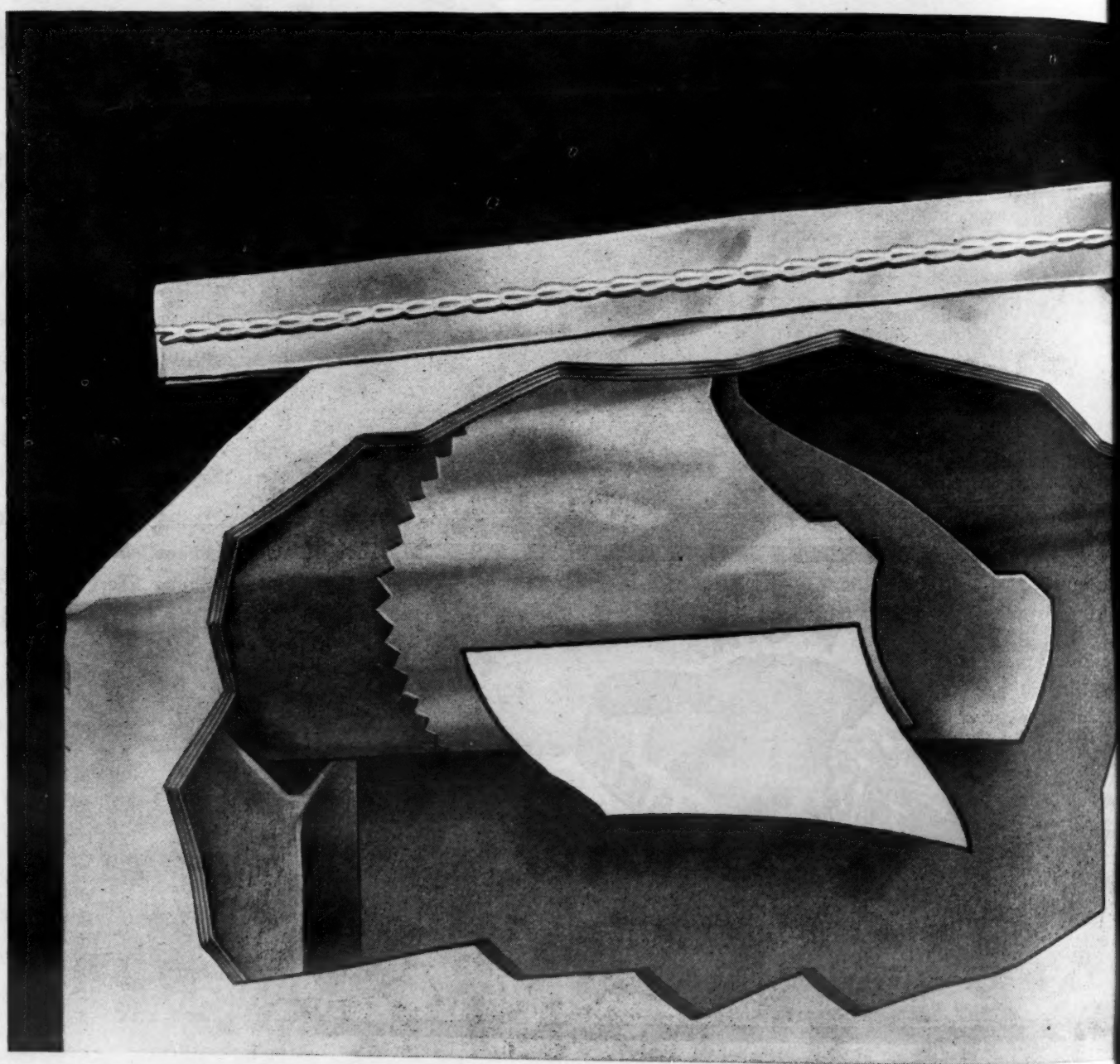
Cabbage loopers and imported cabbage worms are attacking collards in the state, and cabbage webworms and false chinch bugs are found on turnip greens, Mr. Scott reports.

San Jose Scale Infests California

SACRAMENTO — An unusually heavy infestation of San Jose scale has prompted an all-out attack in Tehama County from the Sacramento River to the Los Robles foothills. Prunes, peaches, almonds, apples, pears and many other crops have been attacked.

CONNECTICUT APPOINTMENT

NEW HAVEN, CONN.—Dr. Raymond J. Lukens has joined the staff of the Connecticut Agricultural Experiment Station. He will conduct research on fungicides in the department of plant pathology.



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NEMATODES

(Continued from page 1)

Other incomplete studies indicate that the pests bring about dwindling yields of red clover, wheat and orchard crops.

4. Infestations appear to be spreading, slowly, throughout the Midwest.

5. More research is needed on the creature, its damage and methods of control.

Nematodes, according to G. Thorne, professor of plant pathology at the University of Wisconsin, damage a plant by burrowing into its roots, piercing healthy cells with a syringe-like beak and sucking out vital plant juices. Drained of their juices, plants begin to wither and their production drops off.

Such decreases in yields over a period of years started farmers rotating their crops, on the theory that the one crop depleted the soil, Mr. Thorne said. But, he added, it now appears that nematodes may be a very important factor in such crop failures.

The nematode attacking soybeans in the Midwest and South—the regions that grow 80% of the national crop—was described as a "new and dangerous threat" to that industry by R. O. Bulger, supervisor of the Central Plant Pest Control Region of USDA.

According to Mr. Bulger the pest was discovered in a small area in North Carolina in 1954. Since then infestations have been found in Missouri, Tennessee, Arkansas, Kentucky and Mississippi.

To prevent this nematode from spreading to other soybean areas USDA and each of the states recently clamped a quarantine on the infested fields, Mr. Bulger said. Under the quarantine, farmers can sell their produce only in adjacent, already-infected areas.

Studies reported by G. F. Warren, professor of horticulture at Purdue University, show widespread nematode damage in the cantaloupe fields of southern Indiana. Production in many of these fields could be completely wiped out, if the pest is not controlled, he said.

In field experiments described by Mr. Warren, control of nematodes was obtained with chemicals. He said one chemical, D-D, gave marketable yields as high as 214 bu. an acre, while an untreated, check plot produced 128 bu. an acre.

Lee Jenkins, associate professor of entomology at the University of Missouri, said that 75% of the cotton fields in Missouri's sandy soil area show nematode damage, and 7% of the state's total cotton acreage is seriously damaged.

Nematode populations have built up in some areas to a point where not even nematode-resistant varieties of cotton can be grown, he said.

Other Missouri crops severely damaged by the pests, according to Mr. Jenkins, include watermelons, cantaloupes, tomatoes, carrots, okra and peonies.

Orchard owners and nurserymen face two nematode problems not shared by farmers. D. P. Taylor, nematologist at the University of Minnesota, said that these men cannot use any type of crop rotation program to help keep nematode populations down. Secondly, they get their new stock not in seed form but in root cuttings or balled plants, which may already be infected with nematodes.

Though nematode surveys of Minnesota's orchards are still being conducted, Mr. Taylor expects that the pest will be named as the cause of certain problems both in orchards and nurseries.

So far science has found four methods of controlling nematodes. As described by V. G. Perry, a nematologist at the Wisconsin Experiment Station, they include biological (natural enemies) controls, chemical or soil fumigation, the use of nematode-resistant stock and cultural practices.

He said the cultural practices that give some degree of control are crop rotation, adding organic matter to the soil, fallowing and cultivating so that the top few inches of soil dries quickly.

Biological control is not being used on a large scale at present, Mr. Perry said, but pointed out that certain mites, fungi, bacteria and cannibal nematodes are natural enemies of plant nematodes. Mr. Perry said only a few varieties of certain crops are known to be resistant to one or more nematodes.

Chemicals have given the most effective control to date, according to Mr. Perry. D-D and EDB have been used successfully against most types of nematodes since 1940. Of the new chemicals, V-C-13, Vapam, Fumazone and Nemagon have shown the best results, with the latter "superior" to the others in field-scale use, Mr. Perry said.

Mr. Perry, who also was a panel member Oct. 10, said that in most midwestern states soil fumigation is practical if the grower can gross four times the cost of fumigation through an increase in crops.

He said there is a definite need for soil fumigation to control crops which will be grown or started next year. Among these he named vegetables on muck soils, cherries and other fruits on land infested with root lesion or daggar nematodes, and blue grass lawns in Madison, Wis.

Mr. Perry said the cost of fumigation ranges from $10 per acre for row application to $30 to $35 per acre for treatment of all the soil—with a maximum of $75 per acre for organic soils. In lawns, the cost is $100 per acre and up. Seedbed nursery fumigation usually runs as high as $500 per acre, he said.

C. W. McBeth, head of the department of nematology, agricultural research division, Shell Development Co., said that during the past few years, a fumigant — Nemagon — has been developed that can be used on living plants. Mr. McBeth spoke on the diffusion of fumigants through different soil types and described how fumigants kill nematodes.

Dr. E. F. Feichtmeier, manager, product application department, of Shell Development's agricultural research division, spoke on the use and principles of gravity flow and pressure equipment, how to calibrate the different kinds of equipment for row or over-all treatments, and described application procedures for drenches and granular formulations.

Dr. Joseph M. Boheln and Dr. George M. Beal, of the department of economics and sociology, Iowa State College, spoke on how farmers react to new ideas. They listed five phases that a farmer goes through from the time he hears about a new idea to the time he adopts it. The phases are awareness, interest, evaluation, trial and adoption.

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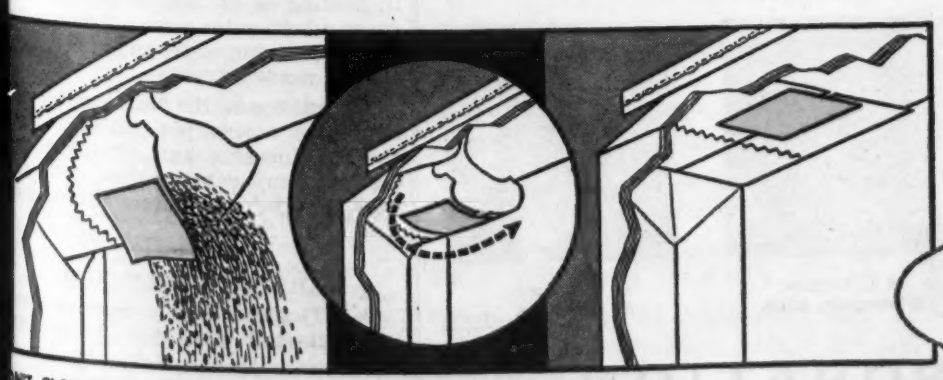

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Southeast Conference To Get Look at Buying Factor Study

WASHINGTON — Representatives of National Plant Food Institute member companies will get their first look at complete results for the Southeast of a survey to determine "what influences farmers to use fertilizer" at a meeting in Atlanta, Ga., Oct. 31.

The presentation will be made by Dr. Moyle S. Williams, chief agricultural economist for the Institute, at the annual Southeastern Fertilizer Conference which will be held at the Dinkler-Plaza Hotel in Atlanta. The survey, which is nationwide in scope, is being conducted for the Institute by National Analysts, Inc., Philadelphia.

A similar presentation of preliminary results for the Northeast was made at the annual New England Fertilier Conference recently. Several spokesmen were quick to point out that the survey results are likely to have a considerable influence upon the planning of sales programs for next year. College personnel foresee a definite influence upon their educational activities.

The Southeastern Fertilizer Conference is the first of two meetings to be held in Atlanta of interest to fertilizer industry and agricultural college personnel. The second is the annual Southern Soil Fertility Conference, which is scheduled for Nov. 1, also at the Dinkler-Plaza. This conference, sponsored jointly by the Southern Regional Soil Research Committee and the Institute, will hear reports of its work groups on sulfur studies, grade-ratios and trace elements. Another feature will be a discussion of the Georgia soil fertility program—research and extension.

The Southern Soil Fertility Conference, Nov. 1, is open to all members of the industry as well as college and U.S. Department of Agriculture representatives. The Southeastern Fertilizer Conference, Oct. 31, is being sponsored by NPFI for its members. Invitations also have been extended to USDA and college personnel.

Walnut Husk Fly Spreads in California

SACRAMENTO—The walnut husk fly, long established in southern California, has spread out of control in northern California as well, according to Robert W. Harper, chief of the California Department of Agriculture's bureau of entomology.

Discovered in the Sonoma Valley in 1954, the fly apparently was contained last year and early this season by intensive spraying. During August and early September the pest suddenly was discovered not only in the mountains near Sonoma and in the Napa Valley but also in Santa Clara County, Mondeocino County, Stanislaus County, Santa Barbara County and Kern County.

G. D. Baerman

G. D. Baerman in New Olin Mathieson Post

NEW YORK—The promotion of G. D. Baerman to manager of the insecticide products department, Olin Mathieson Chemical Corp., has been announced by John O. Logan, vice president and general manager of the industrial chemicals division.

Mr. Baerman formerly was manager of field sales in the same department. He entered the chemical business in 1946 and joined Olin Mathieson in 1954 as assistant sales manager of the insecticide products department.

Mr. Logan also announced three other appointments in the insecticide products department:

C. M. Norton has been appointed assistant manager. In 1946 he joined Genesee Research Corp. which is now part of Olin Mathieson. In 1954 Mr. Norton became assistant to the vice president in charge of fertilizers and insecticides and later was made comptroller for insecticide operations.

Dr. Alfred Weed has been placed in charge of promotion of household insecticides, and Paul Williams will be in charge of insecticide sales for the midwest territory. Dr. Weed, who received his doctorate in entomology at the University of Wisconsin, and Mr. Williams, formerly assistant manager of the department, both have had extensive experience with John Powell & Co. which is now part of Olin Mathieson.

State Rail Rate Boost Denied in Mississippi

MEMPHIS—The Mississippi Public Service Commission has denied a petition for a 5% general increase on rail rates within that state, the National Cottonseed Products Assn., Inc., has informed its members.

This proposal, the association pointed out, would have increased rates within Mississippi on the same basis as the 5% general increase on interstate rates granted southern railroads, effective last Feb. 23. In its decision, the commission said that the railroads have been more successful in holding or gaining traffic in those cases where rates were not increased, than where increases had been granted and made effective.

The railroads, the NCPA said, have now filed a new petition requesting the 5% increase and additional increases comparable to those (4% and 7%) applied to interstate traffic Aug. 26.

GARDEN SUPPLY SHOW

PORTLAND, ORE.—Plans have been started for the 7th annual Northwest Garden Supply Trade Show to be held in the Portland Masonic Temple grand ballroom Oct. 29-30, announces Frank Stewart, Portland, general chairman.

B. E. Paulsen of Russell-Miller Milling Co. listens to . . .

B. E. Paulsen, purchasing agent for Russell-Miller Milling Co., Minneapolis, Minn.

Raymond's clean, colorful printing means exact matching of company colors and accurate reproduction of trademarks, brand names and sales messages. Let a Raymond Representative show you.

Some of the Raymond Representatives at Your Service

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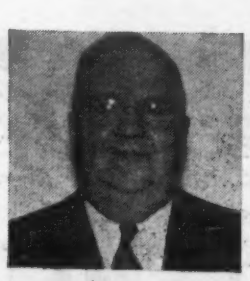
Chicago, Ill.

W. R. Raleigh
Chicago, Ill.

R. J. Stevens
Chicago, Ill.

H. L. Gulden
Minneapolis, Minn.


R. T. Brown
St. Louis, Mo.

RAYMOND BAG CORPORATION
Division of Albemarle Paper Mfg. Co.
MIDDLETOWN, OHIO • RICHMOND, VIRGINIA

U.S. Borax Mine And Refinery Near Completion

LOS ANGELES—U.S. Borax & Chemical Corp. said recently that its new open pit mine and refinery, now nearing completion in the Mojave Desert area of southern California, is expected to boost American output of boron by 30%.

Designed to be a fully mechanical operation from pit to finished product, the project represents an investment of $20,000,000 and more than two years work. When officially placed in production Nov. 14 it will turn out approximately 70% of the free world's total supply, the firm said.

More than 2,000 employees and guests from all parts of U.S. and abroad are expected to attend the opening and dedication ceremonies when the plant is formally inaugurated on Nov. 14. James M. Gerstley, president of the company, and top ranking government officials will participate in the program.

New Firm Formed To Manufacture Specialty Catalysts

LOUISVILLE—A new chemical firm, Catalysts and Chemicals, Inc., has been formed in Louisville for the manufacture of specialty catalysts for the chemical, petroleum and food industries. Principals of the new company are Dr. R. E. Reitmeier of Louisville, Dr. J. L. Parker of Tulsa and a group of technical associates.

The main offices, research laboratories and manufacturing facilities will be located in Louisville, where the firm has purchased a block of manufacturing buildings formerly occupied by the Mengel Co. The buildings provide 70,000 square feet of floor space on a three and one-half acre plot. Remodeling of the buildings and installation of processing equipment are presently under way. The initial investment in buildings and equipment will be between $750,000 and $1,000,000.

The company announced it will engage in the manufacture and development of specialty catalysts which are used primarily in the manufacture and purification of various industrial gases, synthetic fertilizers, organic chemicals and a variety of petrochemical products. Research and development facilities are being equipped and staffed.

Mr. Reitmeier was formerly manager of the catalysts division of the Girdler Co. and has been active for a number of years in the field of industrial catalysis. The associated group of chemists and engineers includes Earl Englert, catalyst sales; John S. Cromeans, technical service; Dr. Harold W. Fleming, research and development; Dr. Kenton Atwood, staff technical consultant, and Paul E. Huber, catalyst manufacture.

North Carolina Sales

RALEIGH, N.C.—North Carolina fertilizer sales during August totaled 25,013 tons, compared with 21,024 tons in August, 1956, according to the North Carolina Department of Agriculture. Sales in the first two months (July and August) of this fiscal year totaled 38,012, a gain over 35,992 tons in a comparable period a year ago.

VIRGINIA PUBLICATIONS

BLACKSBURG, VA.—Several publications of interest to the farm chemicals industry have been issued by Virginia Polytechnic Institute. They are "Diseases of Small Grain," a revised bulletin; a research report on fertilizer response and nutrient removal by alfalfa on a limestone soil, and a research report on utilization of topdressed superphosphate by pasture forages in southeastern Virginia.

Farmers Support Plan To Finance Research In North Carolina

RALEIGH, N.C.—A "Nickels for Know-How" self-assessment plan for farmers buying feed and fertilizer has been overwhelmingly approved by North Carolina farmers, returns from 91 counties indicate.

The farmers voted 30,925 in favor with only 2,321 opposing, in the returns which represent about 93% of the total votes cast.

The program calls for "self-assessment" of 5¢ on each ton of feed and fertilizer purchased by North Carolina farmers. Under the enabling legislation, which authorized the first referendum in 1951, the feed and fertilizer manufacturers add the nickel a ton to the price, with the funds being turned over to the Agricultural Foundation at North Carolina State College.

The money raised in this program is used for agricultural research and education and includes all segments of farming in North Carolina.

According to L. Y. Balentine, North Carolina commissioner of agriculture, the average farmer pays in about 30¢ a year, with probably the largest assessment totaling $1 a year.

Union Bag Receives Advertising Award

WASHINGTON—Union Bag-Camp Paper Corp. has received the Grand Award in the annual competition run by the Direct Mail Advertising Assn., which recently held its 40th annual convention at the Sheraton-Park Hotel here. The announcement was made by Eldridge Peterson, publisher of Printers' Ink, who served as chairman of the contest judges.

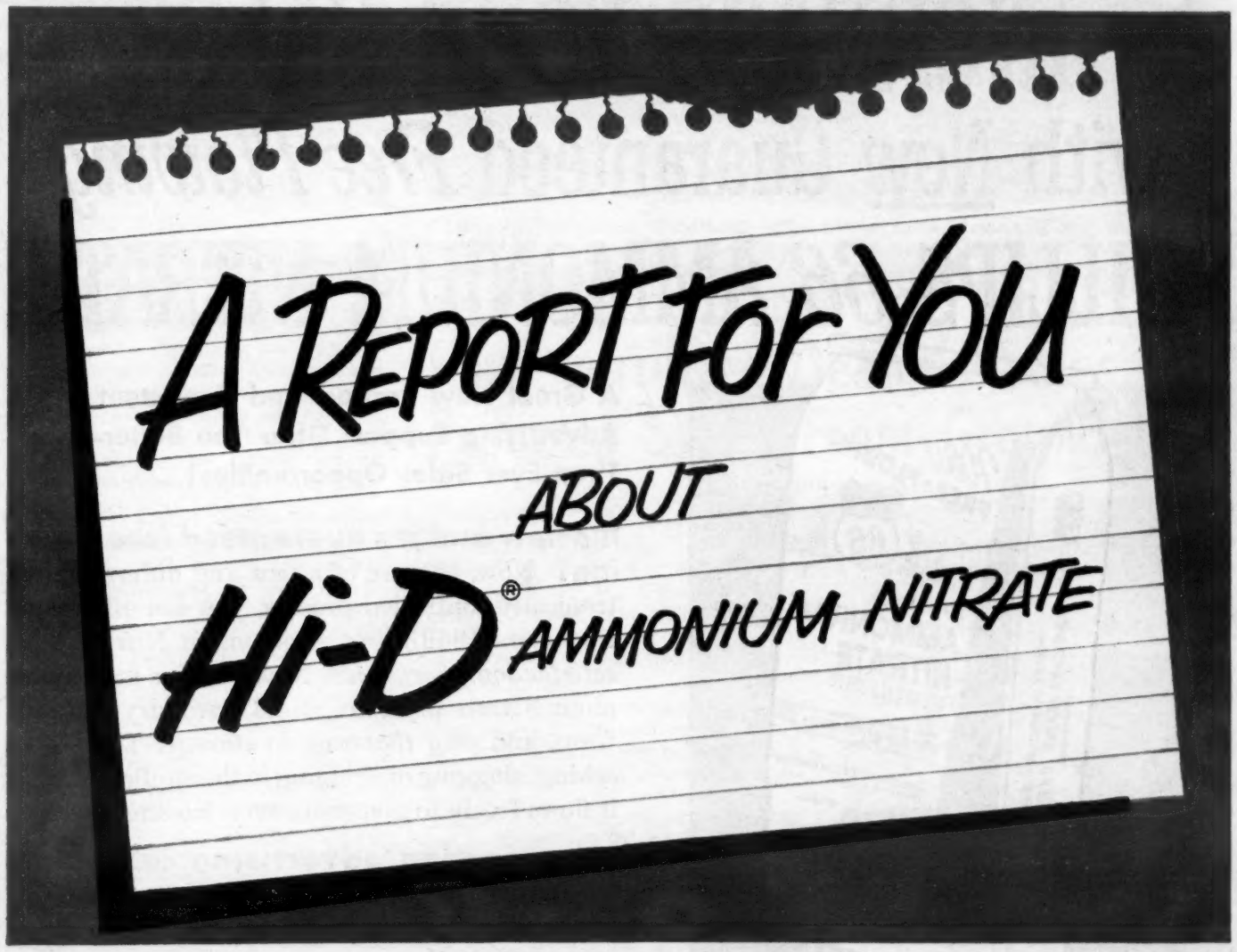
Fifty-six "Best of Industry" awards were made to other direct mail campaigns in a variety of industrial and business classifications. In the opinion of the seven judges the Union Bag campaign was considered to be the outstanding entry in the entire contest.

Gene W. Donaldson, director of advertising and sales promotion for Union Bag, accepted the Grand Award at a special awards breakfast.

The winning direct mail campaign consisted of 15 units mailed over a one-year period to more than 2,000 executives in companies which represent major customers and prospects for Union's multiwall bag sales division.

MERITORIOUS SERVICE

NEW YORK—Dr. Edward L. Kozicky, director of conservation for Olin Mathieson Chemical Corp., has been awarded a citation for "meritorious service" in recognition of his work on wildlife conservation. The citation was presented to Dr. Kozicky by Fred A. Seaton, secretary of the interior. Dr. Kozicky, prior to joining Olin Mathieson, had been with the Fish and Wildlife Service, U.S. Department of the Interior.



DEALERS PREFER Hi-D

"The rapid acceptance and demand for Hi-D was amazing."

"Hi-D is a better product in good bags."

"Arrived in better shape and stored better for a longer period."

"First time farmers have ever specified a brand of ammonium nitrate."

"Hi-D bags stand out well in warehouse. Farmer notices them as soon as he walks in."

"We've had really good reports about the product from our Hi-D customers."

"When farmers asked for ammonium nitrate, we sent them Hi-D. We were surprised at the number who insisted on Hi-D when they re-ordered."

"The spring advertising campaign sure built farmer recognition for Hi-D."

FARMERS PREFER Hi-D

"Really prefer the Hi-D granules in our field machinery over other kinds of ammonium nitrate."

"The men all like the way Hi-D handles. Hi-D throws nicely. What we don't use at once stores very well."

"Best moisture-proof bag I've ever seen. Used Hi-D on coastal Bermuda grass and corn, plus oats and rye in winter. A really free-flowing material, you never get too much or too little. Hi-D is always in good condition even after storing."

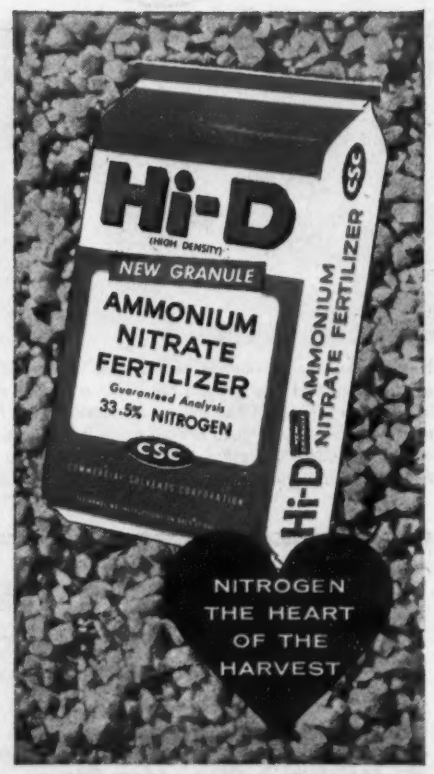
PILOTS PREFER Hi-D

"Hi-D arrives dry and stays dry. Flows evenly from start to finish. Plane hopper holds up to 25% more material. Saves me air time."

"More pounds of Hi-D in the hopper saves air time. Really flows nice. Fly at 30 feet with prills, 36 feet with Hi-D which means fewer times through a field, more profit per job."

"Hi-D is always dry when we open it. Flows regularly from start to finish—no bridging in the hopper. Shuts off fast. No bind due to dust."

IT'S EASY TO SEE THAT
IT'S EASIER TO SELL Hi-D!



A PRODUCT OF COMMERCIAL SOLVENTS CORPORATION 1817 WEST FULLERTON AVENUE, CHICAGO 14, ILL.
STERLINGTON, LA. • 344 WILLIAMS ST., N.W., ATLANTA, GA. • 7890 FOLK AVE., ST. LOUIS, MO. • TERRE HAUTE, IND.

COTTON CONFERENCE

(Continued from page 1)

a need for new application equipment that will properly place the starter materials and that attention should be given to other machinery to facilitate the handling of bulk materials on the farm.

He concluded, "In forecasting the outlook in the fertilizer industry, I can see only a continued increase. I believe that future trends will be closely associated with methods that will permit mechanization and reduce the labor of handling the increased quantities that will be needed."

Weed control is the biggest worry irrigation has brought to the humid area of the Cotton Belt, according to Rex F. Colwick, coordinator, Regional Cotton Mechanization Project, State College, Miss. Mr. Colwick spoke on the impact of irrigation on cotton mechanization in the humid region.

In describing problems caused by irrigation, Mr. Colwick said rains following irrigation will delay operations and often cause excess plant growth. Late season weeds and grass, if not kept under control, are apt to lower the quality of machine-picked cotton. Getting equipment through the field is another problem, the speaker said.

The most helpful prospects for solving the problems are "lay-by" herbicides, according to Mr. Colwick.

"It may be possible to integrate these with early season herbicides, and perhaps flame, with a system of skip-row management," he said. "This would make it unnecessary for the tractor to travel through the normally spaced rows. Instead, it would move on dry alleys or machinery ways between several blocks of rows."

Dr. W. C. Shaw, U.S. Department of Agriculture agronomist of Beltsville, Md., told the conference that a well-balanced research program is needed if there is to be continued progress in weed control.

"Certain inadequacies in present weed control methods are apparent and the solutions to these problems will not be an easy task," Dr. Shaw said.

He said the old formula of trying to restrict weed control costs to 10% of the value of a bale of cotton and labor to 15 hours per acre is one of the most serious obstacles to overcome. Farmers, he added, also must be persuaded to practice good weed control methods not only for cotton, but for rotational crops as well.

Fundamental research is needed in several areas of weed control, said Dr. Shaw. Listed as most important were: (1) studies of life history of major weeds infesting cotton, (2) the long-term effects of herbicides on soil properties, (3) effect of application methods on herbicidal efficiency, (4) analysis of resistance of weeds to herbicides, and (5) what actually happens to the herbicide chemically when it is absorbed by the weed.

Dr. Shaw stated that immediate problems faced in our current weed control programs include the need for an effective soil fumigant to be used as a pre-planting treatment, a residual pre-emergence herbicide not affected by environment or soil factors, a post-emergence herbicide that enters the weed through the leaves, and more simple herbicide application equipment.

Dr. Shaw told the conferees that the future rate of progress will be largely determined by: (1) discovery of more selective, more specific, better translocated, more efficient, better formulated and more economical herbicides, (2) a basic fundamental understanding of the effects of chemicals on plant growth and soils, (3) ingenuity in supplementing and combining chemical and cultural practices, and (4) the development of more efficient weed control techniques.

Increased engineering and biological research is a "must" if the whole range of agricultural chemicals is to be used to its best advantage, a U.S. Department of Agriculture research specialist told the conference.

Kenneth Messenger, in charge of the Aircraft and Special Equipment Center at Beltsville, Md., said that great strides had been made in the proper application of these chemicals, but pointed out that much more remains to be done.

About one-fifth of the nation's agricultural land is treated by aircraft, Mr. Messenger said, but almost all of the planes used were originally designed for purposes having no relation to agriculture. He predicted that the days of these aircraft are numbered, as far as agricultural use is concerned, and that they will be replaced by aircraft designed especially for agricultural work.

Citing some of the difficulties encountered in experimenting with aerial application of pesticides and fertilizers, Mr. Messenger said results varied with each type aircraft used. He pointed out that the standardization of planes in the future would result in more efficient research on application methods.

Mr. Messenger said that there have been similar problems in ground application methods. Certain chemicals perform well in one applicator but are inefficient in others. "Much remains to be done in designing air-nozzle configurations suitable for the treatment of some crops," Mr. Messenger told the conferees, "but from the evidence available it appears that the air-blast principle for applying sprays has a promising future."

Problems that must be solved in both aerial and ground applicators concern tanks, hoppers, pumps, agitators, valves, hoses, booms, screens and nozzles. The design and arrangement of these components, as well as the material of which they are made, affect their suitability for any given job.

Mr. Messenger pointed out that the increasing number and type of chemicals also complicates the research picture. About 90% of those now in use have made their appearance since 1940. This particularly accentuates the problems associated with corrosion and abrasion.

Even if the U.S. cotton industry could achieve a much larger market with present cost structures, it is seriously doubtful the industry could hold that market unless the weed control bottleneck is broken, according to Claude L. Welch, director of the production and marketing division of the National Cotton Council.

Pointing out that weed control ex-

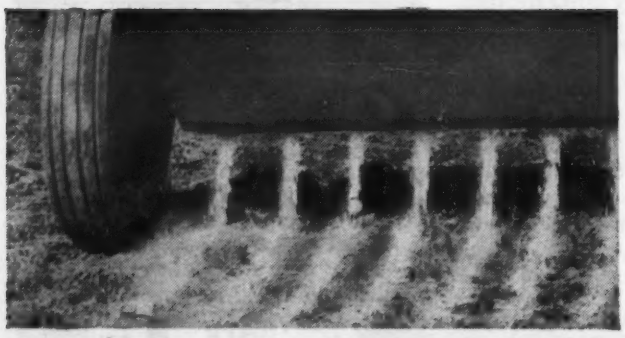
(Continued on page 17)

INCREASE YOUR SALES
with New Guaranteed *Free Flowing*
PHILLIPS *66* AMMONIUM NITRATE!

A Great New Product and Consistent Advertising Support Offer You Better-Than-Ever Sales Opportunities!

It's new and it's guaranteed free flowing! Now, because of a new and different electronically-controlled process, you can offer your customers Phillips *66* Ammonium Nitrate with *satisfaction guaranteed.* New Phillips *66* Ammonium Nitrate prills are round, hard, dry and uniform, and *stay that way* in storage. There's no caking, clogging or bridging in the applicator; and it flows freely to give more even feeding of crops.

A supporting advertising campaign in farm papers makes your overall sales job easier because, in addition to stressing straight nitrogen, this campaign helps you sell mixed goods.



Here's where *performance counts* with your customers—at the time of application. And you get the full backing of Phillips Petroleum Company in this guarantee of free flowing performance. *"New Phillips 66 Ammonium Nitrate is guaranteed to flow freely when stored and applied in a normal manner. If you are not satisfied that it lives up to this guarantee, your fertilizer dealer will replace it at no additional expense to you."

"Continuous product improvement through Phillips vast research facilities helps make your selling job easier and more profitable."

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DES MOINES, IOWA—6th Floor, Hubbell Bldg.
HOUSTON, TEX.—6910 Fannin St.
INDIANAPOLIS, IND.—1112 N. Pennsylvania St.
KANSAS CITY, MO.—500 West 39th St.
MINNEAPOLIS, MINN.—212 Sixth St. South
NEW YORK, N. Y.—80 Broadway
OMAHA, NEB.—6th Floor, WOW Building
PASADENA, CALIF.—330 Security Bldg.
RALEIGH, N. C.—401 Oberlin Rd.
SALT LAKE CITY, UTAH—68 South Main
SPOKANE, WASH.—521 E. Sprague
ST. LOUIS, MO.—4251 Lindell Blvd.
TAMPA, FLA.—3737 Neptune St.
TULSA, OKLA.—1708 Utica Square
WICHITA, KAN.—501 KFH Building

SHOP TALK

OVER THE COUNTER

By Emmet J. Hoffman
Croplife Marketing Editor

Today the farm chemical and supply dealer's cost of doing business is at an all time high and there are strong indications that it will continue to increase, comes a reminder from Charles W. Fletcher, sales manager, Merrimack Farmers Exchange, Inc., Concord, N.H.

Farm supplies, he says, are merchandised in the store, in contrast with some products which are sold best on the farm. Therefore, it is imperative that sound merchandising practices be used in the store to maintain a profitable volume and margin.

Many changes have taken place since the turn of the century in farm product merchandising. In 1900, Mr. Fletcher points out, New Hampshire had 29,000 farms while today there are less than 10,000. While it is true that farms have become larger, there has not been an appreciable reduction in the number of suppliers, but there is now one prospect where there were formerly three.

Due to this situation, dealers have probably had a reduction in the amount of store traffic. Taxes, depreciation, upkeep and the other items of expense keep on at a store regardless of the number of people who call.

The sale of farm supplies and miscellaneous items affords an opportunity to offset the decrease in farm population, providing the dealer has a sound merchandising program for these items. Many miscellaneous items offer a good margin of profit as well as an opportunity to attract many new customers to the store.

City people and campers are good prospects for such items as lawn seed, small garden tools, paint and hundreds of other items too numerous to mention. Many of these customers pay cash and carry the goods home with them. With this type of program there are many things that will bear watching closely, such as inventory control, product changes and so forth.

Ninety per cent of all dealers, Mr. Fletcher says, need to make changes if they plan to sell profitably the items mentioned. Far too many show rooms are dirty—dimly lighted. Goods, if displayed at all, are poorly displayed. And most store personnel are not trained to sell the products they handle.

Is it any wonder why some stores lose sales when on the same shelf you see dirty bags of flour with a pile of rat poison on one side of it and leaking cans of fly sprays or motor oil on the other side. This sounds far-fetched, but there are still such displays. A dealer should take an honest look at his own show room and write down everything he sees that is wrong. He will be amazed at the length of his list.

A show room need not be elaborate or expensive to be good. However, it must be kept clean, and that includes the ceiling, the walls, the shelves, the floors, the windows and the merchandise. A dealer must have attractive displays. Dairy supplies, poultry supplies and so forth must be grouped together. All goods should be clearly priced. Clean literature should accompany displays.

If the show room is attractive to the farm trade, it will also attract the non-farmers in the area. It must be kept in mind that as farms have become larger, farmers have become very busy people. They like to shop where they can get many of their needs at one stop. The window and store displays should be in line with the season. Such displays will remind customers of what they need and will help to increase sales. The point is: Make it easy for customers to buy.

Show room and window displays must be planned ahead and changed every week. Dealers should go over each item in a display with store personnel to make sure they understand how to sell each item. Store personnel must also be trained to greet customers promptly and make them feel welcome at the store. They should be trained how to build up a sale through suggestive selling. For example, if a customer buys paint, they should suggest turpentine, paint brushes and other items that go hand in hand with painting. Most customers appreciate the salesman's interest and in many cases it will save them an extra trip to the store.

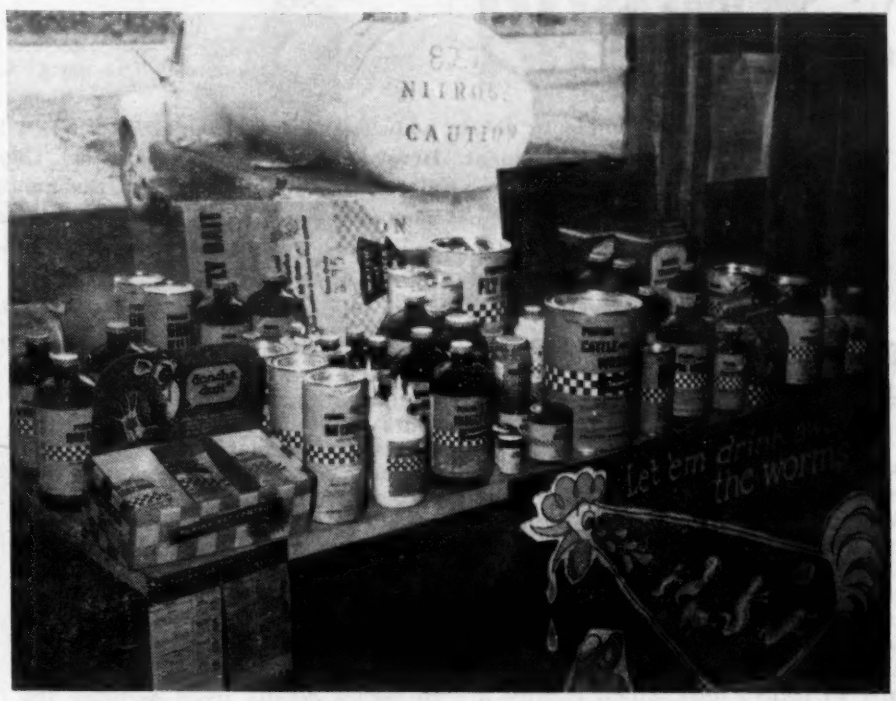
In 1954, 300,000 customers were interviewed to determine "Why Customers Prefer One Store to Another." In this survey the results were as follows in line of their importance:

(1) Efficient sales people.
(2) High quality of goods.
(3) Wide choice of merchandise.
(4) Convenient location.
(5) Prompt service.
(6) Low prices of goods.
(7) Dependable store.
(8) Nationally advertised goods.
(9) Attractiveness of store.
(10) Good store layout.
(11) Friendships in store.
(12) Fair adjustments.
(13) Liberal credit terms.

"To show that we appreciate your bringing in all this new business we're going to increase your territory."

NO DAMAGE

LINCOLN, NEB.—Heptachlor and aldrin do not damage corn roots when used as soil insecticides under ordinary field conditions, according to tests conducted by Harold J. Ball, Nebraska Experiment Station.



FARM CHEMICALS DISPLAY—The above farm chemicals and sanitation products display was photographed at Dean & Bill's Agricultural Service, New Hampton, Iowa. Complete, neat in-store displays aid a regular on-the-route selling program in maintaining a growing level of business for the Iowa firm.

Iowa Fertilizer Dealer's Sales Program Starts From Ground Up

By AL P. NELSON
Croplife Special Writer

William Mills, owner of Dean & Bill's Agricultural Service, New Hampton, Iowa, has a fertilizer sales program which starts from the ground up. The program, he feels, has been a successful one.

Mr. Mills is especially well qualified to sell fertilizer, because, prior to the establishing of his business four years ago, he was a soil conservation farm planner with many years of experience.

If Mr. Mills approaches a farmer for fertilizer for his corn, or if the farmer approaches him on the matter, he usually asks the farmer if he had his soil tested the previous year. If the farmer has, then the soil test recommendations can be checked against what the farmer applied that year. And if the soil was tested after the current year's crop was taken off, then the recommendations should be very accurate, he says.

But, and this is often the case, the farmer has not had his soil tested and has forgotten how many pounds of dry fertilizer he applied and how much anhydrous he used. In such an instance Mr. Mills asks the farmer how many bushels of corn per acre he got off a typical three acres. When the farmer tells him, then he figures how much nitrogen such a crop would remove from the soil. He then tells the farmer that he needs so much nitrogen to replace that which the previous corn crop took, and that probably some potash and phosphorus are also needed to make certain growth factors are balanced.

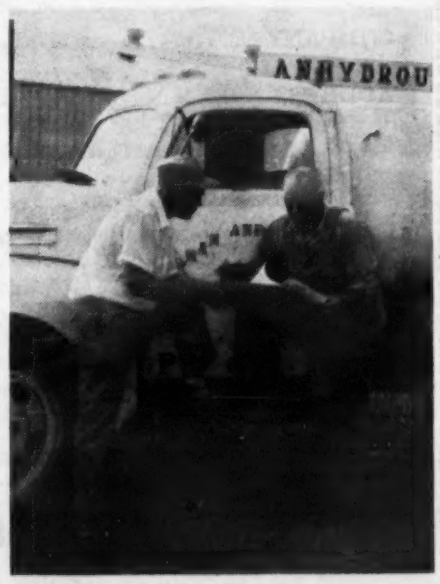
If there is time to get an actual soil test, he recommends this be done. But if time is short, then the farmer can follow Mr. Mills' recommendations and then get the soil tests at the first opportunity later. But the point is that Mr. Mills sells the farmer on the importance of getting out the pencil and figuring how much fertilizer is needed, rather than going by the hit and miss method. He urges his customers to have soil tests taken early so that they can have soil laboratory recommendations well ahead of the plowing and planting season.

Practical examples are what the farmer understands and likes and so Mr. Mills has a two-acre tract of corn behind his store which he fertilizes and checks on results. For example, in July, 1957, he had fine looking corn growing on this tract and many farmers had seen it and asked what type of fertilizer was used.

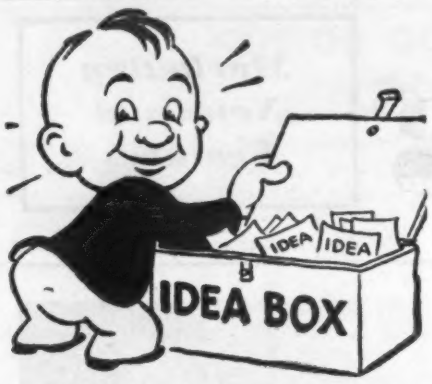
This year Mr. Mills used on his corn acreage 100 lb. of 5-20-20, 200 lb. of 0-20-20 and 80 lb. of nitrogen (anhydrous).

"A plot like this is a mighty effective sales tool," Mr. Mills states. "I walk back to the plot with a corn farmer and we can talk heavy fertilization and check with my own corn.

(Continued on page 12)



SALES TALK—William Mills, left, talks over an anhydrous ammonia application situation with a customer in the picture here. Mr. Mills owns Dean & Bill's Agricultural Service at New Hampton, Iowa.



What's New...

In Products, Services, Literature

You will find it simple to obtain additional information about the new products, new services and new literature described in this department. Here's all you have to do: (1) Clip out the entire coupon and return address card in the lower outside corner of this page. (2) Circle the number of the item on which you desire more information. Fill in your name, your company's name and your address. (3) Fold the clip-out over double, with the return address portion on the outside. (4) Fasten the two edges together with a staple, cellophane tape or glue, whichever is handiest. (5) Drop in any mail box. That's all you do. We'll pay the postage. You can, of course, use your own envelope or paste the coupon on the back of a government postcard if you prefer.

No. 6638—Dust Collector

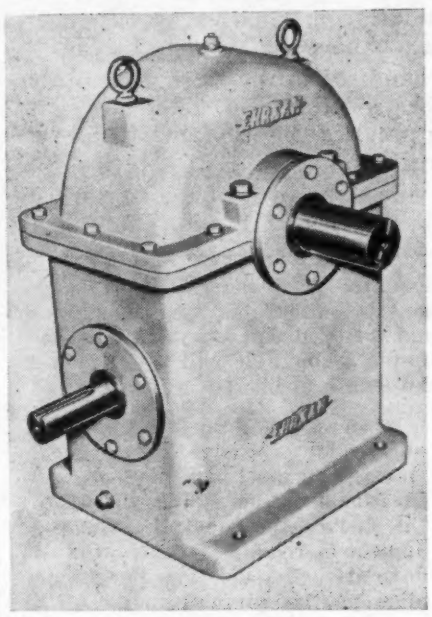
Literature concerning the use of the "Wheelabrator Dustube" dust collectors has been published by the Wheelabrator Corp. Some of the typical installations of the collectors outlined in the literature are: Controlling dust from manual unloading of product dryers; salvage material being lost at pulverizing and weighing stations and through the atmosphere; and to collect dust which creates a hazard to health, housekeeping and equipment maintenance. Secure details by checking No. 6638 on the coupon and mailing it to Croplife.

No. 6639—TEPP Film

The significance of insecticide formulations incorporating tetraethyl pyrophosphate, commonly referred to as "TEPP" and being produced by many well known insecticide manufacturers, is portrayed in a short motion picture film produced by Eastman Chemical Products, Inc., subsidiary of the Eastman Kodak Co. The company's announcement states: "Considerable attention was given TEPP last year when the new federal controls went into effect regulating the use of toxic chemicals on food crops through the administration of the Miller Act. While extremely toxic when initially applied, TEPP possesses the unique property of decomposing into a harmless residue within 48 hours after application. This feature makes it particularly valuable in protecting crops virtually up to harvest time when the use of other insecticides would be unsafe owing to their longer residual effects." The film was originally produced in 1956, and subsequently withdrawn for revisions. The new version shows how the formulations combat insect pests along with approved methods of application. To secure details about securing the film check No. 6639 on the coupon and mail it to Croplife.

No. 5823—Speed Reducers

The J. B. Ehrsam & Sons Mfg. Co. has announced complete details of its improved line of speed reducers. The line, known as the Ehrsam style W, incorporates a number of improvements over previous designs, officials said. They are: easier-running bearings, sturdy micrometal housings, and heavy-duty worms and worm gears. The speed reducer is available in nine standard models or sizes, numbered 3W to 15W. (Model numbers indicate center distance between worm shaft and gear shaft. In model 3W, the distance is 3 in.) All models are available with a wide range of ratios. Weights



of these standard models range from 125 lb. for model 3W to 2,950 lb. for model 15W. Complete literature on the line is available. Check No. 5823 on the coupon and mail it to this publication.

No. 6643—Liquid Feed Supplement

U.S. Industrial Chemicals Co., division of National Distillers & Chemical Corp., has announced a new liquid feed supplement for cattle and sheep which the firm believes will be of interest to liquid fertilizer manufacturers and distributors. The product, "Morea," is a liquid mixture containing urea, ethanol, phosphoric acid, essential trace minerals and molasses. U.S.I. said it will sell a concentrated liquid Morea premix to manufacturers who will blend the concentrate with molasses. The firm is currently appointing manufacturers who will mix and distribute the final product to farmers. The company stated that it believes liquid fertilizer manufacturers may have facilities for formulation and distribution of the product. For more details check No. 6643 on the coupon and mail it to this publication.

No. 6642—Ground Wheel Drive

A drive wheel unit for operating anhydrous ammonia and liquid solutions metering pumps during fertilizer application has been announced by the Dempster Mill Manufacturing Co. The unit, which can be attached by a single clamp to either a 2-in. or 2¼-in. tool bar, eliminates adapting pump brackets and drive mechanism to control the liquid fertilizer application from the tractor. The unit can be mounted either to the rear or in front of the square bar and is quickly interchangeable from one tractor to another, it is claimed. The wheel is equipped with Timken bearings and roller chain sprockets. Dempster also markets Liquijector liquid fertilizer applicators and pumps for anhydrous ammonia or solutions. Secure details by checking No. 6642 on the coupon and mailing it to Croplife.

Also Available

The following items have appeared in the What's New section of recent issues of Croplife. They are reprinted to help keep retail dealers on the regional circulation plan informed of new industry products, literature and services.

No. 6634—Spray Hose

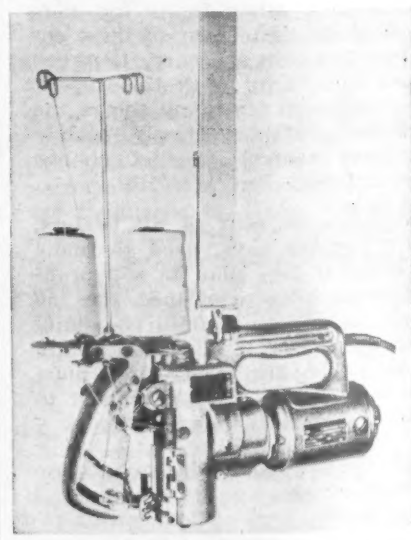
The Boston Woven Hose & Rubber Co., division of American Biltrite Rubber Co., Inc., has introduced a new line of Boston spray hose which includes hose for high, medium and low pressure service. The high and medium pressure hose is claimed to be able to handle all types of spray solutions, while the low pressure hose will handle all types of weed killing solutions and insecticides. The spray hose is claimed to be tough, weather resistant and able to meet rugged requirements. Descriptive literature, including all specifications, is available free. Check No. 6634 on the coupon and mail it to Croplife.

No. 6633—Seed Treatment

The Rainbow Color & Chemical Co. has announced a product which is claimed to improve the heat resistance of plants. The chemical treatment, said to be economical and easy to handle, "shows a substantial increase in the resistance of the plants to high temperature exposure. It is also capable of improving resistance to salinity." Soils of a saline type, located in hot summer climates under adequate irrigation, can be used as good crop land with this method, it is claimed. Secure details by checking No. 6633 on the coupon and mailing it to Croplife.

No. 5817—Electric Sewing Machine

The Burrows Equipment Co. has announced details of the Union special portable electric sewing machine for which it has been named distributor. The class 2,100 lightweight bag closing machine weighs 9½ lb. and may be mounted on a pedestal or suspended and is operated by a han-



dle switch or foot pedal control. Cotton, burlap, jute, multiwall and tar laminated paper may be utilized. It operates at 1,200 to 1,700 stitches per minute and uses a two-thread stitch. For details check No. 5817 on the coupon and mail it to this publication.

No. 5789—Vibratory Feeders

The Eriez Manufacturing Co. announces the production of a new line of Hi-Vi electro-permanent magnetic vibratory feeders which are said to have greater output and move materials faster than units of comparable size. The drive element is completely enclosed. The feeder operates at 3,600 CPM directly off an AC line. An Alnico V lifetime magnet is part of the magnetic rectifica-

Send me information on the items marked:

☐ No. 5737—Sanitation	☐ No. 6633—Seed Treatment
☐ No. 5777—Drum Handler	☐ No. 6634—Spray Hose
☐ No. 5786—Bag Tagger	☐ No. 6635—Pneumatic Pump
☐ No. 5789—Feeders	☐ No. 6636—Parts Catalog
☐ No. 5817—Sewing Machine	☐ No. 6637—Vacuum Cleaner
☐ No. 5818—Bag Packer	☐ No. 6638—Dust Collector
☐ No. 5823—Speed Reducer	☐ No. 6639—TEPP Film
☐ No. 6632—Irrigation Timer	☐ No. 6642—Drive
(PLEASE PRINT OR TYPE)	☐ No. 6643 Supplement

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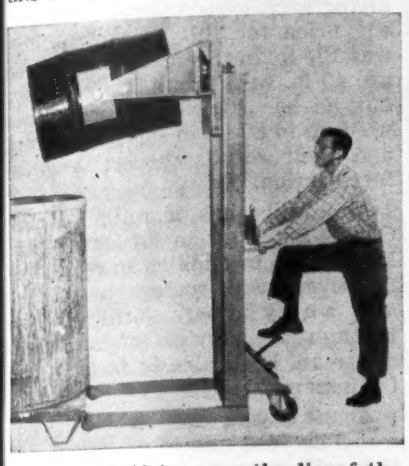
tion system. Action is two-way, push-pull vibration. The company states that all types of materials, "dry, hot, abrasive, lumpy—may be conveyed, agitated, blended, cooled, dried or mixed" in the feeders. Check No. 5789 on the coupon and mail it to secure details.

No. 5777—Drum Handler

The Hamilton Equipment Co., Inc., has developed a unit trade-named, the Hamilton drum handler for handling drums weighing up to 800 lb. Among the unit's features are: It is 6 ft., 6 in. high; one-man control; hydraulically-operated lift which will elevate a drum 56 in. in its vertical position and to 63 in. for pouring; the drum tilts easily and in the pouring position extends 10 in. over the lip of the tank; it has large wheels. Grab arms for carboys or fiber drums are available and are interchangeable. Secure details by checking No. 5777 on the coupon and mailing it to this publication.



No. 5737—Grain Sanitation

A free grain sanitation service is described by the Douglas Chemical Co. in a new 14-page catalog. The catalog lists and describes the firm's line of products and also describes the service, which consists essentially of four parts: (1) inspection, (2) detection, (3) evaluation and report, and (4) recommendation. A copy of the catalog will be sent without charge. Check No. 5737 on the coupon and mail it to this publication.

No. 6635—Pneumatic Pump

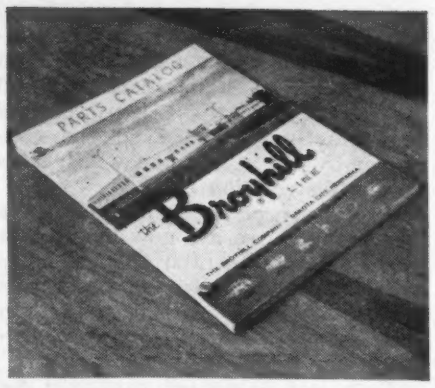
A pump, trade named Pneuma Pump, for chemicals, oil and water, has been announced by Pneuma Pump of America, Ltd. The unit consists of a compressor, motor and a distributor mounted on a base and is connected to the pump body by metal, rubber or plastic piping to the distributor. The unit is said to be able to pump sludges, liquids carrying solids or corrosive or abrasive material and fluid carrying gases, and is adaptable to chemical plant use. Secure details by checking No. 6635 on the coupon and mailing it to Croplife.

No. 6637—Vacuum Cleaner

The Hild Floor Machine Co. has introduced a new 15-gal. vacuum cleaner with a special intake that can be used with 1½-, 2- and 3-in. hoses, for light general vacuuming through heavy duty vacuuming. The motor can be detached for use as a portable blower, sprayer or "Strap-Bak-Vacuum." For complete information check No. 6637 on the coupon and mail it to Croplife.

No. 6636—Parts Catalog

A new 134-page parts catalog listing 1,306 parts has been printed by the Broyhill Co. Fully illustrated, the catalog has a complete parts breakdown and prices on sprayer and fertilizer replacement parts and accessories for all makes of equipment.



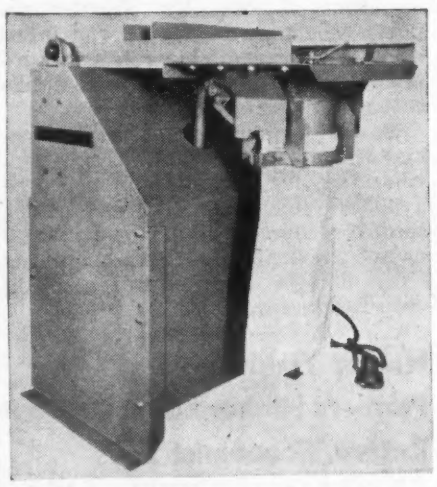
The catalog states that the company "maintains one of the largest parts inventories in the country and can provide fast efficient service from a centrally located source." The catalog is free to companies requesting it by checking No. 6636 on the coupon and sending it to Croplife.

No. 6632—Irrigation Timer

A newly designed irrigation timer recommended for farms, lawns or cultivated areas where sprinkling of one section at a time is required has been developed by the Zenith Electric Co. It is known as the model IRR, and the timer controls a number of sections in sequence. The length of time per section is factory adjusted but can be set to allow different times for each section. Twenty-four hour control is provided, and the timer can be cut out automatically any day of the week. To secure details check No. 6632 on the coupon and mail it to Croplife.

No. 5818—Bag Packer

A bag packer—which bounces as it packs—is claimed to reduce labor and handling time while speeding up operations to 12 100-lb. bags a minute, announces the Richardson Scale Co. The G-73 impacker is used for packing burlap, cotton and jute bags. It gets its name from its vertical jouncing action, which jounces or impacts material into a bag held in place by clamps. The unit operates without noise or vibration to provide smaller, more compact, packages, according to company officials. Materials which can be packed include meals, mashes, hulls, beet pulps, molasses feeds and many others. For more complete details check No. 5818 on the coupon and mail it to this publication.



No. 5786—Bag Tagger-Coder

Information concerning the bag tagger-coder furnished by the Mill Engineering Co. will be sent without charge to those interested. The coder attachment now available will apply a code to the tag as it is automatically injected into the sewing machine. The code can be changed in less than one minute by use of a special quick change feature, according to the company. "Considerable other information can be printed," the announcement states. The identification of pellets and crumbles can also be made. The inking roll is protected from dust and an air motor is used to eliminate electrical hazards. Check No. 5786 on the coupon and mail it to secure details.

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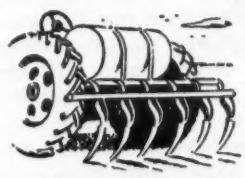

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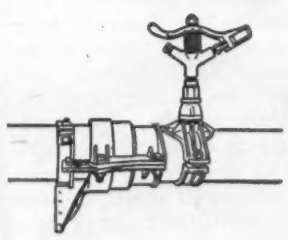

Mathieson irrigation systems are engineered to meet individual requirements. Important features such as square shoulder gaskets, positive lock couplers, extended foot, and steel bushings insure dependable and economical performance.

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Your Farm Customer in 1972

Next 15 Years to Shape Future of Agriculture

By Dr. Ike Hall

EDITOR'S NOTE: Changes in farming during the next 15 years may well shape the course agriculture will take for many years to come, in the opinion of Dr. Ike Hall, professor emeritus, University of Wisconsin. The accompanying article is adapted from a talk given by Dr. Hall at a recent meeting.

The "farmer of tomorrow" is a subject in which we all have an interest and concern. The period we talk about today is the farm during the next 15 years. This will be a most challenging time. The course our agriculture is to take for many years to come may well be shaped during these years immediately ahead.

Farming in the Past

Before we discuss the future course, let us look where we have been and where we are now. People find it hard to understand how greatly the American economy has changed in the last 100 years, even in the last 50 years. The world has been accustomed to an agricultural society. Now something new has been added in the way of machines, and we are living in an industrial society. Agriculture is far from being swallowed up, but it no longer calls the tunes in economic, social and political affairs.

We have shifted from an agriculture largely independent of government to one in which the government is deeply involved. I do not mean price support programs only. More important are public programs in support of research, education, conservation, markets, social security, farm credit, crop and livestock disease control, rural electrification and even telephones. There is no group that has more government service than agriculture.

We have changed from small, independent, isolated farms to a highly competitive complex family business enterprise. We have put into practice scientific knowledge for much of the guesswork, habit or trial and error, which once determined how we farmed.

We have shifted from a rural economy to one highly urbanized and industrialized, from self-sufficiency to considerable dependence on others for goods and services we need.

Farming at Present

Modern farming is now a really big business. In Wisconsin it requires from $40,000 to $60,000 to put one farm operator in business on a livestock farm. This is two to four times as much as industry has to invest to create a job.

Greater emphasis is being placed on increased efficiency, lower unit costs of production, labor saving devices, and reduced losses from erosion, flooding, drouth, weeds, insects and diseases.

The farmer has ample knowledge and has demonstrated he can produce enough food to meet the needs of our rapidly increasing population at reasonable prices. Production could increase at least 50% and double for many products by making full use of the "know-how" that is now available. This means that agricultural production will more than meet the demand for at least 15 years.

The farmers' prosperity is neither as great nor as stable as that of other important groups. Wide fluctuations in farm prices and difference in level of net income are the most important economic problems facing our modern agriculture.

Farmers now comprise only 12% of the whole population. They are now struggling to readjust to this industrial system. The thing that complicates this readjustment is that labor and business groups who dominate our industrial society are not operating entirely on a free market basis.

Free Market Difficult

This is what makes it hard for agriculture to stick to a purely free market system and survive, for its costs are fixed by the exceptionally high level of industrial wages and charges.

There is more to the farm problem than readjustment of acreage following a war. The readjustment is to the machine age. It is not an easy job and will take more than one lifetime. The political efforts to give them something, like parity, have already spanned more than one generation and the end is not yet in sight.

Ever since the first world war, political leaders have been trying to give agriculture a status which the market, dominated by labor and industry, has denied it except in wartime.

The labor and industrial groups have managed to get their income up in higher brackets than ever seen before. What is more, these high industrial wages, prices, fees and charges now constitute costs to the farmer. Farmers cannot do anything to control these costs that put the squeeze on agriculture.

Basically most farmers do not like subsidies and even less do they like official regulation and control. The farmer is an individualist and his instinct is to trust his own resources. He tends to resent interference from outside. Actually, the mass of farmers in this country, and the large and responsible farm organizations have fought everything in the nature of official regimentation. In some degree they have had to come to the subsidies and in like degree have accepted the controls. But even there, the attitude has been essentially one of doing it under protest.

During the last 25 years, the number of workers engaged in food marketing have nearly doubled until now there are over 5 million workers. This is just the reverse of the trend taking place with farm workers. More and more people are moving in between the farmer and the consumer. All these people have to be paid and they get high urban wages. The consumer is demanding more services in the field of processing, marketing and distributing. There are many services and practices imposed on the consumer by the middleman which adds to the distribution costs.

I am sure history will record the age in which we are now living as a time of unprecedented change. More changes will take place on our farms during the next 15 or 20 years than have occurred during any comparable period in our history.

There will be a much expanded domestic market for farm products. There will be a gross national income of about twice what it is today. Almost half again as many working with more output per worker.

Indications are that as time goes on, people will be eating more meat and dairy products.

There will be fewer farm people and fewer farms. Farmers today are enlarging their farms so they can use more power machinery.

All this will mean increased use of labor-saving devices, more large machines, tractors, combines, balers, forage harvesters and corn pickers. It also means:

Increased use of lime and commercial fertilizer, perhaps double during the next 15 years.

Increased use of adapted, disease resistant varieties of seeds.

Increased use of high quality forage for hay and pasture.

Controlling weeds, insects and diseases that affect crops and animals.

Better feeding methods supplementing home grown feeds with concentrates.

Most of the information needed to bring these improvements about is already at hand.

Cornstalks Good Nitrogen Source

LINCOLN, NEB.—Cornstalks can be a valuable source of nitrogen, according to Fred E. Koehler, Nebraska Agricultural Research Service agronomist at the Scotts Bluff Experiment Station.

From 20 to 52 lb. of nitrogen per acre was found in the cornstalks and leaves in five fertilizer experiments on irrigated corn, Mr. Koehler reports. The amount found was influenced by the available nitrogen supply in the soil and the rate of application of nitrogen fertilizer.

To the farmer who pastures cornstalks, the application of nitrogen fertilizer means more protein per acre available to livestock, Mr. Koehler said. Whether the stalks are pastured or not, application of fertilizer means more nitrogen returned to the soil in crop residues, he added.

Higher Yields Give Farmers Higher Labor Return, Economist Says

EAST LANSING, MICH.—A Michigan economist reports that farmers who cut their costs of production with higher yields per acre, received more dollars for every hour of labor in 1956 than at any time since 1952. John Doneth, Michigan State College farm economist, bases this statement on a study of records kept by 500 dairy, livestock and general farmers throughout the state. Mr. Doneth says that the net income of these farmers increased a third more than did their expenses. So it paid them well to use profit-building methods.

On the basis of his study, Mr. Doneth indicates that farms are becoming more specialized, larger and more commercialized. Farmers are either faced with changing, investing, expanding and improving, or else selling or renting the land out, he believes.

Mr. Doneth says the best method for boosting income from farm labor is to try to increase yields and production rates, so that unit costs are lower.

IOWA DEALER

(Continued from page 9)

The farmer can see for himself what my fertilization program produces. It is language he understands."

Of course, in his corn acreage Bill also has several rows that have not been fertilized. These check rows show the farmer the difference between fertilized and unfertilized rows and are mighty convincing in a fertilizer sales presentation.

Mr. Mills has two 6,000-gal. storage tanks for anhydrous, and he has two applicators, one with a 100-gal. tank, another with a 250-gal. tank. They are five row applicators and Mr. Mills charges $1.50 per acre for applying anhydrous ammonia. This year the price for this type of fertilizer was 10¢ lb. in this area. Most farmers use 40 lb. to the acre, Mr. Mills says, but he has some corn farmers who used up to 80 lb. in sidedressing corn, and their results showed the heavy fertilization.

Mr. Mills has a retired farmer, Orville Smith, as an outside salesman. Mr. Smith, in addition to selling feed for seven retail routes, also sells dry and anhydrous fertilizer. Thus through the services of the outside salesman, he is able to contact many farmers regularly.

About a year ago, Mr. Mills added a mobile feed mill to his service, and this mill now does regular grinding and mixing for 110 customers in a wide area. Through this service, he is also able to contact many farmers who are fertilizer and farm chemical prospects. Mr. Smith also sells mobile feed service on the routes which he covers.

Through his ads, his outside salesmen, his mobile mill service and other activities, Mr. Mills invites farmers to come to him with their soil and fertilizer problems. His well rounded service is appreciated by farmers, and this is one reason why his fertilizer volume is increasing each year. He also states that the combination of feed and fertilizer, plus the sale of bulk milk tanks, gives him and his men business every month of the year, with very few slow periods.

Mr. Mills has a very attractive salesroom, and in it farm chemicals have prominent display. Many farmers have their own sprayers, he says, but he is able to sell them a lot of corn and other sprays, including weed controls.

"While we do some newspaper advertising now and then," Mr. Mills says, "our best form of advertising is getting out and talking with farmers about their fertilizer problems and their spray control problems. The farmer appreciates help in this respect and he wants to know more about the various sprays that have recently come on the market. We talk with farmers every chance we get, at the store, on the routes, on the farms. It is this constant educational work that helps us help the farmer get better results from fertilizer and farm chemicals."

SUGAR CANE FERTILIZATION

AUBURN, ALA.—Use of disease resistant varieties and good production practices may reclaim some of the lost sugar cane acreage in Alabama, according to Dr. J. T. Cope, Jr., associate agronomist, Alabama Polytechnic Institute. Alabama Experiment Station recommendations call for cane to be fertilized with 60 lb. each of nitrogen, phosphorus and potash per acre. Dr. Cope said that these amounts may be supplied as 500 lb. of 4-12-12 per acre applied beside the row in an off-bar furrow in the early spring plus a side-dressing of 40 lb. of nitrogen in June. They also may be supplied 750 lb. of 8-8-8 per acre at the first cultivation.

What's Been Happening?

This column, a review of news reported in Croplife in recent weeks, is designed to keep retail dealers on the regional circulation plan up to date on industry happenings.

Ezra Taft Benson, secretary of agriculture, is prepared to go before Congress next January to ask for an end of corn acreage allotment controls and for a reduction in the level of price supports for corn and the other basic crops—wheat, cotton, rice, peanuts and tobacco. It is expected that Mr. Benson's basis for the proposal will be that corn acreage controls have demonstrated their ineffectiveness and should be ended. To a lesser degree he feels the same is true of other crops.

The Tennessee Valley Authority reports that it produced about 266,000 tons of nitrogen and phosphate fertilizers during the 1957 fiscal year.

Treatment of crops and farm land with agricultural chemicals, especially by air, will probably increase rapidly in the next few years, continuing a trend that began at the end of World War II, the U.S. Department of Agriculture said in a special statement.

Sales and services rendered by aerial applicators topped $90 million in 1956, the National Aviation Trades Assn. reported recently. The applicators stated that they needed a number of additional potent chemical products to do a more complete job, and called on the industry to continue its efforts to provide such materials.

Dr. Willard H. Garman was appointed regional director for the National Plant Food Institute in the northeastern states. He will make his headquarters at the Institute's offices in Washington, D.C. Dr. Garman has been chief agronomist for the Institute for about two years and his appointment to the new post was the first of four to be made by the NPFI in connection with its expanded educational program.

Diamond Black Leaf Co. operations were integrated with the business interests of Diamond Alkali Co., Cleveland. Loren P. Scoville, general manager of Diamond's chlorinated products division, said the consolidation would provide better service to customers of both farm and home products.

A ten year progress report on the battle against tsetse fly in Uganda, Africa, indicated that the pest has been beaten back so that only 700 square miles are now infested, as compared to some 8,200 square miles a decade ago. Use of insecticides along river banks, plus cultural improvements, have been prime factors in the program.

The Stepan Chemical Co., Chicago, acquired Ninol Laboratories, Inc., Chicago in a $2 million deal. Ninol will operate as a division of Stepan Chemical Co.

American Chemical Paint Co. held an international convention at Ambler, Pa., in which some 34 nations were represented. One of the chief topics covered was that of weed and brush control in both agriculture and industry.

American Cyanamid Co. established regional offices in Chicago, Dallas, Los Angeles, and New York City for the sales management of all Farm and Home Division products. This division produces and markets a full line of products for "virtually every aspect of the agricultural industry," according to Burton F. Bowman, division director of marketing.

Jack V. Vernon, president of the Niagara Chemical Division of the Food Machinery & Chemical Corp., Middleport, N.Y., was elected president of the National Agricultural Chemicals Assn. at its annual convention at Spring Lake, N.J. He succeeds Fred W. Hatch, manager of the Agricultural Chemicals Division of Shell Chemical Corp., New York. The new vice president of NAC is Charles H. Sommer, Monsanto Chemical Co., St. Louis. Lea S. Hitchner continues as the executive secretary. Some 500 persons attended the meeting.

Work has started on a statistically designed chemical control research project sponsored by the National Plant Food Institute. The primary purpose is to determine whether current fertilizer sampling and analytical procedures are adequate.

Hercules Powder Co. has announced it will start construction immediately of facilities to produce 10,000 tons per year of urea at its Hercules, Cal., plant.

Total world consumption of fertilizer, excluding the USSR and Communist China, has gone up from 8.4 million metric tons of combined nitrogen, phosphoric acid and potash in 1938 to 19.6 million tons in 1956, an increase of 133%, according to the Foreign Agricultural Service.

Three new products, "Niagara 1240," a compound with miticidal properties and possessing activity against various insect species, "Phostex," an organophosphorus pesticide, and "Sevin," a wide spectrum carbamate insecticide, were described at the 132nd meeting of the American Chemical Society held in New York. During the meeting a study of anhydrous ammonia from the standpoint of its economic value was presented in a paper by Dr. Arthur M. Smith, Olin Mathieson Chemical Corp. He said that anhydrous ammonia supplied nearly one-third of all the direct application fertilizer nitrogen used in the U.S., thus putting it in first position in this regard.

Price increases were announced by basic suppliers for ammonium nitrate and anhydrous ammonia effective Oct. 1.

The U.S. Department of Agriculture said that it has proposed an amendment to regulations for labeling commercial pesticides in order to clarify its policy of not endorsing these products.

Sales of anhydrous ammonia for direct application gained 32.8% in the first seven months of this year over the sales in a comparable period in 1956, according to a survey issued by the Agricultural Ammonia Institute.

The U.S. Department of Agriculture reports the presence of a virus disease in rice in Florida which, officials said, is virus in its concept and which defies identification of method of transmission.

International Minerals & Chemical Corp. announced plans to spend more than $20 million on construction of a potash mine near Esterhazy, Sask., Canada. A 3,000 ft. deep shaft is presently being sunk at the site.

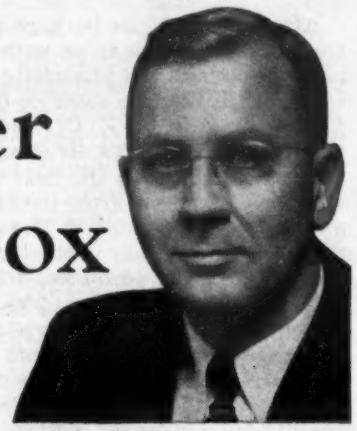
The Buhner Fertilizer Co., Seymour, Ind., was purchased by American Agricultural Chemical Co. The latter has 30 plants and sales offices in the U.S., Canada and Cuba.

ADVERTISEMENT

The Bulletin Board

No. 30 in a series from the Spencer Chemical Magazine, "Today's Fertilizer Dealer"

The Spencer Question Box



Edited by

Proctor Gull

Chief Agronomist, Spencer Chemical Co.

"The Question Box" is one of the most popular features of TFD, Spencer Chemical Company's magazine for fertilizer dealers. Questions submitted by dealers are answered by Proctor Gull, head of Spencer's 7-man field agronomy team. Here are a few timely questions and answers from recent issues of TFD.

1. QUESTION: Has the rumor that fertilizer will burn a crop in a dry year ever been substantiated?—J. R. Plemel, Mohall, North Dakota.

ANSWER: It is possible that a well fertilized crop would deteriorate faster during hot, dry weather than an unfertilized crop. It is also possible that a well fertilized crop could fare better than an unfertilized crop under the same conditions.

An adequate treatment of fertilizer to correct soil needs hastens maturity. It speeds up silking and tasseling of corn or the heading of small grains. In some seasons, this is to the plant's advantage. In other years, it may push flowering or pollenating into a hot, dry period.

This business of fertilizing is not a 100% proposition. Some years, fertilizer will give spectacular response, some years, average response and some years, if all goes wrong with the weather, perhaps no response. The justification for fertilizer use must be based on its value over a period of years, and over such periods fertilizer is a profitable investment.

College agronomists in your state report that a 40-pound actual nitrogen application, for example, will result in an average increase in corn yield of around 10 bushels per acre. It is important to consider, too, that in years of complete crop failure, the farmer loses all the money he has invested in seed, machinery, labor and land costs, but in the case of his fertilizer treatment it is not a complete loss, since a good portion will carry over and benefit succeeding crops.

2. QUESTION: Is it possible to apply too much fertilizer?—O. W. Coppedge, Jr., Blytheville, Ark.

ANSWER: Yes, it is possible to apply too much fertilizer, however, this would be dependent on method of application as to what we would consider too much. Rather large amounts of fertilizers are being applied to specific crops today where the bulk of material is broadcast and disked or plowed in. It is quite common to see application rates of 2000 to 3000 pounds of a mixed fertilizer per acre particularly for truck crops, tobacco and potatoes as well as other crops of high economic value. Broadcast applications of fertilizer disced or plowed in before planting, very rarely, if ever, cause physical damage to crops.

However, we have many instances today where damage has actually been done by row applications of too much fertilizer in or near the seed. This damage is caused by salt action of such compounds as nitrate and potassium in the fertilizer.

Although improper or careless application can cause some trouble, the use of soil test information and proper placement of fertliizer leave very little danger of injury to the crop.

3. QUESTION: When is the best time to put nitrogen on wheat ground? Before plowing — at sowing time — or early spring? — Leonard Goodwin, Hiawatha, Kans.

ANSWER: Research results show that it makes little difference when nitrogen fertilizer is applied. Fall application for wheat is entirely satisfactory except on light, sandy soils. On these soils spring topdressing is better. Of course, the big advantage of fall application is to get the job done during the off-peak labor season and, on heavy soils and in areas where the ground remains frozen all winter, leaching losses will be negligible.

Some of the N may be applied at seeding, either as ammonium nitrate or in a mixed fertilizer. The remainder should be either plowed under or topdressed in the spring. Don't forget about the extra days of grazing afforded by fall fertilizer applications—they add extra dollars to the farmer's pocket.

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FARM SERVICE DATA

Extension Station Reports

Alfalfa stands can be kept productive for 10 years or more with an annual top-dressing of phosphate-potash fertilizer in the late summer or early fall, reports Dr. A. E. Peterson, University of Wisconsin soils specialist.

Dr. Peterson says the best time to top-dress is shortly after the last crop of hay has been removed. The amount and ratio of fertilizer in the top-dressing should be based on soil tests.

"Applications of from 200 to 400 lb. per acre of 0-10-30, 0-20-20 or their equivalent have proved profitable in many areas," says Dr. Peterson. "The nutrients in the top-dressing will frequently build stronger, better-anchored root systems that can help alfalfa plants survive severe winter weather."

Returns of up to $5 in extra alfalfa yields for every $1 invested in fertilizer have been reported by some farmers, according to Dr. Peterson. In top-dressing bluegrass or brome pastures, it is advisable to use a complete fertilizer such as 10-10-10. It can often pay to use from 400 to 800 lb. per acre, Dr. Peterson reports.

Where nitrogen alone is used for top-dressing, soil tests should be made at regular intervals to make sure the grass does not run short of phosphate and potash, he says. "Fall applications of nitrogen should not be made until the soil temperature is below 50° F.," Dr. Peterson said. "It does not pay to apply nitrogen in the fall on sandy soils, because of losses due to leaching."

★

A Minnesota soils scientist reports that fertilizer can help produce more protein in each acre of corn and alfalfa. Dr. John M. MacGregor, of the University of Minnesota, says that the increased percentage of protein in corn or alfalfa plants depends on the nutrients in the fertilizer.

Adding phosphate alone to alfalfa increased both the percentage of total protein in the forage and the yield per acre, says Dr. MacGregor.

Phosphate-potash fertilizer boosted alfalfa yields and increased the overall protein output per acre more than did phosphate alone. However, the phosphate alone gave the alfalfa plants a higher percentage of protein than did the phosphate-potash application.

Dr. MacGregor reports that the phosphate-potash fertilizer produced crops with a higher percentage of protein than crops that received no fertilizer.

The Minnesota soil scientist used different fertilizer treatments on both corn and alfalfa and then analyzed the protein content of the crops. Adding nitrogen to corn on sandy soils gave more efficient production through higher yields and better quality because of increased protein than when the corn received no nitrogen, Dr. MacGregor says.

★

Farmers who neglect to lime acid soils are letting profits slip through their fingers, according to Iowa State College agronomists.

J. A. Stritzel, of the Iowa agronomy staff, lists these benefits from liming:

1. Liming makes soils "sweeter" by reducing acidity. This helps you establish legume seedings more easily.

2. Liming creates more favorable conditions for increases in the soil's population of beneficial bacteria. This promotes more rapid decay of organic matter. As a result, more nitrogen and phosphorus are made available from the soil for crop growth.

3. Liming adds to the supply of available calcium in the soil.

★

Combined chemical and tillage methods have solved the Canada thistle problem for Oran B. Howser, farmer near Lakota, N.D.

This Nelson County farmer found he could not control the thistles on fallow by tillage alone. Last year he used a 2,4-D treatment the third week in August and repeated this treatment three weeks later. A light application of chemical was used each time, about ¼ lb. 2,4-D acid per acre. Mr. Howser cultivated the field just before freeze-up and believes this practice to be very important.

"This treatment did the job," says Mr. Howser. Close to complete control was obtained, as only a few thistles appeared at harvest time this year.

Mr. Howser sprays thistles in stubble in years when there is good growth. He uses fall tillage measures when moisture conditions do not favor thistle growth.

★

Midwestern agronomists report that pasture renovation can cut feeding costs and boost net income by helping farmers double and sometimes triple the number of dairy cows and beef cattle they can carry per acre.

Ohio and Missouri tests have demonstrated that renovated pasture can produce all the roughage needed for cows and still cut down on grains and protein supplements required to maintain milk and meat production.

The soils men point out that a good pasture renovation program replaces weak, weedy sods with high producing stands of legumes and grasses. It also involves using fertilizer to build up the fertility level, so the land can support thick growth of grass and legumes. Such a program should also include a good seed bed and the seeding of grasses and legumes at the proper time.

In some renovation programs, farmers use plows or skin plowing for removing the old sod. Other farmers use a disk or spring tooth harrow to work up the ground. Fall pasture renovation can be profitable for northern farmers where spring seedings are likely to succeed, the agronomists point out. In other areas where late summer seedings are the rule, spring renovation is effective. The soils men report that renovation can particularly benefit farmers whose cattle are not getting all the hay and grass silage they need for top production.

QUICK MATURING COTTON

LUBBOCK, TEXAS—A quick-maturing cotton from Yugoslavia has shown great promise at the Lubbock Experiment Station where it is being tested. Several of the plants which bloomed on July 19 had open bolls of cotton 40 days later, according to Dr. J. D. Bilbro, U.S. Department of Agriculture cotton breeder with the station. This is at least 20 days quicker than most cotton being grown in West Texas, which usually requires from 60 to 70 days from open bloom to maturity. Growers throughout West Texas have been searching for a quick-growing variety that will get ahead of the first frost, which often nips the crop in late October.

A Summary of Ideas

Dealer Collection Practices Vary on Overdue Accounts

A wide divergence of opinion exists among farm dealers on how to go about collecting delinquent accounts, on how much credit should be extended, on how character and business references should be sought, and on many other things connected with selling and collecting.

Some dealers look very worried when their accounts receivable total $500. On the other hand, some dealers are happy when they reduce their accounts receivable from $20,000 to $15,000. The volume of some of these dealers may be just about the same.

Some dealers become quite concerned when accounts run 60 days without a cent being paid on them. Other dealers don't do anything with delinquent accounts until they are four months old. Some dealers drag along for eight months without collecting accounts.

One dealer said that after he has made a delinquent pay on a bill he can then go right ahead and sell him again on credit, because the customer knows the dealer will be after his money when the bill becomes delinquent and he won't let up until it is collected. This, he reasons, will make the customer pay up quite a bit quicker the second time. Thus if the dealer follows through on the first collection efforts, until he gets his money, this persistence will be remembered.

Another dealer will work hard to make a delinquent pay up, then he does put him on a cash basis for future business, until the customer proves he will pay within or on 30 days. Quite a few cash-minded dealers do not care if a delinquent never comes back to buy again. They often feel that they are better off without that kind of business. They would rather concentrate on the cash type of customer.

Thus there are no specific rules which should govern all dealers. Whatever system a dealer uses, the test of any collection system is, "Does the dealer make a reasonable profit, after he has deducted his collection cost, and is his business growing normally despite time spent on collections?"

It may not be too important whether a farmer pays his bills within 30 or 60 days, so long as the dealer manages to make a profit and his business progresses. Some dealers are just naturally slow in acting on delinquent accounts. They can't be changed; only a shortage of cash will cause them to reflect on the advantage of getting a turnover on a cash investment more quickly.

Then there is the prosperous dealer who says, "I have been a dealer for 40 years, and I was never once near the starving point. I always gave credit to farmers who needed it, and sometimes I didn't collect for an entire year. Frequently I let bills run up to six months to people whom I know need the credit. I've lost my share, I suppose, now and then, but I still have a comfortable bank surplus, own my own home, a farm, mill and other investments. In fact, I am a director of one of our local banks. Sure, it's wonderful to get your money quickly, but you can't always do that. Are you going to lose a farmer's business—amounting to $1,000 to $2,000 a year for 10 years just because you won't give him credit—up to six months—when he needs it?"

Regardless of how a dealer handles his credit problem, these facts are always true:

1. Accounts receivable not paid up represent capital tied up which the dealer cannot use.

2. When the dealer or any other business man borrows money, this represents an added cost of doing business which cuts down on his total net profit.

3. Giving credit for too long a period, or too easily, often makes a customer take his good natured time in paying up. The older a bill becomes the less inclination there is to pay it.

4. When a dealer has a slow turnover of his capital, he may turn down good purchases at a discount because he does not wish to borrow the money to make special buys.

There is probably no business in the world where credit conditions are so free and easy as in some phases of the farm supply business, and yet the dealer operates on a smaller margin than most retailers. However, a large number of dealers get along all right. Perhaps it is because they may be satisfied with a smaller net profit annually than are other retailers.

One dealer uses the following credit policy successfully:

1. He writes personal notes on statements when an account becomes delinquent. He always has $15,000 to $18,000 on his books, most of it 30 to 90 days old. Notes on statements will usually bring in payments from those who intend to pay. If they know the dealer needs and wants his money, they'll send checks, states this dealer.

Customers of this type may constitute 75% of the delinquent accounts. They are short of cash temporarily, or may want to buy other things—and so they put off their bill. But when asked for payment, they will usually pay.

2. When an account becomes 90 days and has not paid and has not answered personal notes on statements, then the dealer writes the account a personal letter, signed by him.

If no reply is received within 15 days, he writes another letter. He will write three letters 15 days apart trying to collect his money. If no reply is received, he is then ready for the third step.

3. The third step is placing the account in the hands of a county credit agency. This collection agency usually collects rapidly from most accounts. Delinquents appear to fear this agency more so than the dealer. They know that every merchant in the county will have their credit rating, if they do not pay the agency. Of course, when the credit agency collects for the dealer, the latter doesn't make much profit if any from the account. He may lose money, but recover part of his capital.

"Actually, the number of accounts I have to turn over to the agency is very small," he says. "I collect most of my accounts by the other methods. I make very few personal collection calls, for I find they take too much time, and do not get enough money per call. When a delinquent gets my collection letters and notices on the statements, he knows I mean business. Most of them pay that way."

Other dealers say that they like the personal collection plan best, for it really gets the money. Thus, it can be seen that dealers and methods vary.

However, one thing is advisable, as a rule. Whatever collection method a dealer uses, it should be consistent, month after month, until it has had a proper trial. Paying bills soon or late can be a habit with many people. If a dealer asks for his money frequently, he usually gets it.

Good paying habits among customers should and can be established. It will insure the dealer of better business.

Doing Business With

Oscar & Pat

By AL P. NELSON
Croplife Special Writer

The old fashioned Seth Thomas clock on the wall above Oscar Schoenfeld's desk struck the hour of two in the afternoon. It had a shrill "bong" to it, followed by a noise which seemed to indicate a number of springs unwinding and shrieking in the process. Pat McGillicuddy had often asked Oscar to replace it with a modern electric wall clock, but Oscar clung to the faded Seth Thomas timepiece, as he clung to many of the ideas which he accumulated years ago. In fact, there were many people, especially supply salesmen, who insisted vehemently that what Oscar needed was a mental window opening to let in some fresh cerebral air, but such an idea was farthest from Oscar's mind. He believe in going along with a sound, proved idea; he did not favor experimentation in any form, shape, or manner.

"Just look!" he said disgustedly to plump Tillie, the ulcerish bookkeeper. "Here it is two o'clock and Pat and that chemical salesman went to lunch at 11:30. How that Pat can waste time! Ach, if he would really work like we do, then we would make a decent profit."

"Perhaps they are talking over some sales promotion," Tillie suggested.

"Sales promotion!" snorted Oscar. "That's the trouble with most business men today. They think all they have to do to make money is to put on a sales promotion. They spend hours at meetings, drinking coffee, shooting off their mouths, letting the wind out of their heads and then go back to the office three hours late. If they would stick to their chobs and forget all those promotions, they would be farther ahead, I can tell you."

At this moment voices sounded in the warehouse, and then Pat and Gib Swanson, a supply salesman, came in. Oscar cast a critical glance at the clock; it said 2:20, and the significance of that glance was not lost on Pat or the salesman.

Pat sat down at his desk, and the salesman intuitively took a chair near the big safe where Ann Hydrous, the maltese cat, slept peacefully on top a stack of dusty magazines.

"Gib and I have been talking over an idea which should give his firm and ours a lot of publicity that could make more sales," Pat said enthusiastically.

"It's really Pat's idea," Gib put in quickly, "and it's a dandy. I'm going to try to get my firm to underwrite it, and I think I can."

Oscar looked coldly at the two men, then his glance fastened on Pat. "Ach, I have an idea, too. Saturday is payday and we need somebody to go out and collect a lot of money that some dumbheits have been keeping for three months."

The supply salesman looked a little discomfited and Pat laughed uneasily. "Leave it up to Oscar to stick close to fundamentals, Gib," he said. "Boy, there is no danger of going off the deep end on anything with him around."

"I stick to business," Oscar said stolidly. "Nine hours a day—from 7 to 5."

"One thing about Oscar, you always know where you are at with him," Pat grinned. "He won't hide anything. On this idea of mine, Oscar, I figure it will be a good thing for us if some manufacturer—maybe Gib's boss—would print up special playing cards. Instead of putting flowers or other designs on the sides facing the players, that manufacturer could print on each card a spraying formula for some insect. Then as farmers sit playing cards in fall and winter—or anytime for that matter—they can't help seeing those suggestions and that will make many of them ready to buy farm chemicals in the season just ahead."

"The cards wouldn't cost too much," put in Gib quickly. "I'll bet it could be done for $1 a deck or less. We could pay three fourths of the cost and the dealer about one fourth. Maybe a deck of cards like that would cost you fellows only 25¢. If you gave them to 400 farm families it would cost only $100."

"Only $100!" cried Oscar. "Ach, always you fellows want to give the farmer something free that costs us money. You are spoiling him. Make him pay for what he gets. Nobody is giving me anything for nothing. Himmel, how can you expect the farmer to want to pay for farm chemicals when you are always giving something free?"

The salesman rose to his feet. He knew when he had met an immovable force. "I'll talk the idea over with our president, Pat," he said. "There will be some dealers who will want to go in on the plan. And maybe I can get the per card pack price down to you fellows because you suggested the plan."

Pat rose, too, and shook hands with the departing salesman. "Farmers won't throw away those decks of cards," he said. "The advertising on the cards would last for several years. Funny no one has thought of that idea in this field before."

"Goodbye, Oscar," said Gib Swanson as he left. But Oscar only grunted. It was clearly evident he was glad to get back to his work.

Pat decided to walk to the far end of the parking lot with the salesman, where the latter had left his car. The two men continued to talk about the advertising card idea, when suddenly Pat said, "There's something stuck under your windshield."

Gib Swanson reached over, took out the folded paper and spread it out. Printed in pencil were these words, on the Schoenfeld & McGillicuddy stationery:

"Taking Partner Away from Business for 3 Hours @ $4, $12. O.S."

Pat's face flushed as Swanson handed him the note. "Why, that stinker!" he said hotly. "I'll go back and give him a piece of my mind."

Gib Swanson grinned and shook his head. "Don't, Pat. We all understand Oscar. He's a real curiosity. We all know that he should be on exhibit in the Smithsonian Institute, but for some reason or other he's in business with you here. For my money, I would like to stack up Oscar as the best penny pincher there is in the world. I don't think anybody can beat him."

Pat grinned suddenly. "I get your point, Gib. As my wife Nora says, Oscar's got too much of what I ought to have a little of, but haven't."

DEFOLIATION NEEDED

COLUMBIA, MO.—The need for cotton defoliation in Missouri is becoming more acute as the proportion of the crop picked by mechanical pickers increases, says Bill Murphy, University of Missouri extension field crops specialist. Last year more than 40% of the Missouri crop was picked mechanically.

Minnesota Plots Show Liming Benefits

ST. PAUL—Liming has long-time benefits for all crops in a rotation, according to a research report from A. C. Caldwell, soils scientist at the University of Minnesota, who has conducted liming trials for six years at the Rosemount Agricultural Experiment Station.

Dr. Caldwell, in fall 1951, applied lime treatments of 0, 3, 6, 12 and 24 tons per acre on land that was put into a corn, oats, hay, hay rotation. All plots received the same fertilizer treatment. The only difference was in the amount of lime applied.

Hay yields in 1956 were .36 ton per acre higher where 3 tons of lime per acre were applied and .42 ton higher where the land received 6 tons of lime per acre. Higher liming rates, though didn't bring hay yield increases large enough to pay the added cost for the lime. The 3 and 6-ton liming rates increased oat yields by 3 bu. per acre.

COTTON DISEASE CIRCULAR

TUCSON — Cotton diseases have cost Arizona cotton growers one bale out of every eight. This is the first sentence in a newly-revised circular published by the Agricultural Extension Service of the University of Arizona. Authored by Ivan J. Shields, extension plant pathologist at the University of Arizona, the circular, "Diseases of Cotton," points out the necessary controls for major cotton diseases in Arizona. These include damping-off, verticillium wilt, root knot, bacterial blight, Texas root rot, Southwestern rust, boll rots and crazy top.

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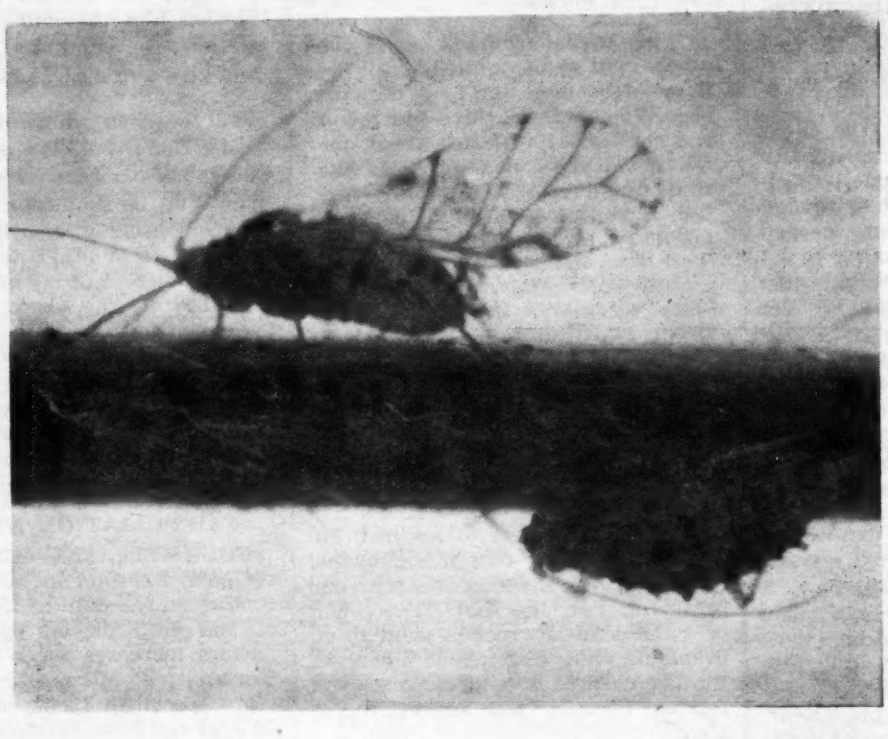
BUG OF THE WEEK

Mr. Dealer—Cut out this page for your bulletin board

Spotted Alfalfa Aphid



How to Identify

This important pest is a small, pale yellow or grayish insect, with from four to six conspicuous rows of dark spots on the back and with "smoky" areas along the wing veins. The illustration above, greatly enlarged, shows both the winged and wingless forms of the spotted alfalfa aphid (Therioaphis maculata). When first noted in 1954, it was confused with the yellow clover aphid which has been known for years as a pest of clover in the eastern states. Closer investigation disclosed the fact that the pest is the spotted aphid.

Habits of the Aphid

Peculiarly, the spotted alfalfa aphid can both lay eggs and produce living young. In northern climates, the aphid overwinters in the egg stage and in the spring these eggs hatch into females. These females can produce living young without mating. Generation after generation during the summer produces only these living young, some of which have wings which enable them to seek new food sources. Toward the fall of the year, both males and females are produced. They mate to produce eggs which overwinter and begin the cycle all over again.

Damage Done by Pest

Its rapid spread since being first reported in New Mexico in 1954, has caused authorities to consider this pest as a "threat to all alfalfa-producing areas of the U.S." It attacks the lower leaves of the alfalfa plant, feeding on the bottom sides of these leaves. Young aphids, produced at the rate of from 2 to 5 a day, kill these lower leaves by their sucking. The pest moves up the stem to upper leaves, ruining the plant as it goes along. Its sticky secretion which coats both leaves and stems, not only acts as a medium for fungi, but reduces the quality of the hay, as well. The sticky honeydew clogs up baling machinery badly.

Control of Spotted Alfalfa Aphid

Both natural control with predators and use of insecticides have been recommended in various areas. Predators thus far have been completely unable to cope with the fast build-up and destructive propensities of the aphid. Thus the use of insecticides must provide an answer. Emphasis has been laid on both timing and application techniques for spray and dust treatments. Successful results have been had from both airplane and ground equipment. Extra care must be taken in thorough application, since the aphids congregate on the under-side of leaves. It is also emphasized that treatment of individual fields is not sufficient, since the winged forms of the pest migrate widely and reproduce rapidly. Cooperation between growers in an area is desired so that all infested fields are treated. In order to know when to apply insecticides for optimum results, careful inspection of fields should be made at least three times a week. Local authorities should be consulted as to the kinds and amounts of pesticides that can be used without leaving illegal amounts of residue at harvest.

Illustration of Spotted Alfalfa Aphid furnished Croplife through courtesy of the University of California.

COTTON CONFERENCE

(Continued from page 8)

rts a strong upward pressure on cot-n production costs, Mr. Welch said hat a larger market would call for creased acreage.

"Additional acreage would mean ore weed control," he stated. "Un-er these conditions it is almost cer-in that labor will not only be more arce but more expensive as well. his kind of a cost situation would rely mean that farmers could not ford the price adjustments neces-ry to attain and maintain a larger d expanding market. Thus, research ust move the weed control stum-ling block out of the way."

The conference also was told that the real value of new weed control practices lies in the reduction and better distribution of hand labor requirements to keep costs at a minimum.

Dr. Grady B. Crowe, agricultural conomist at the Delta Branch Ex-eriment Station at Stoneville, Miss., aid that these new practices could ake it possible for hand labor re-uirements to be kept low enough to e met by families of year-round lantation workers. This would elimi-ate the need for maintaining a labor eserve and would shift cotton pro-uction from a labor-intensive to a abor-extensive enterprise.

"It would permit a working family o produce not from the traditional 0 acres but perhaps from 10 times hat acreage," Dr. Crowe said. "This s the direction in which cotton pro-uction must move if it is to meet uccessfully its strong competition."

IRRIGATION

(Continued from page 1)

crops. And since the water supply often limits practical use of irriga-ion on farms, the possibility of tretching the available water by use f fertilizers is extremely important, epartment researchers point out.

Recent cooperative studies by the Agricultural Research Service and the Alabama Agricultural Experiment Station on the response of crops to added moisture and fertility management reveal that:

1. There is a striking interaction of fertilizer and irrigation water. Until fertilizer was used, irrigation had no effect on the yield of Dallis, a promising summer forage grass in the South and Southeast. An application of 600 lb. of nitrogen per acre and high-level irrigation resulted in an increased yield of 6,000 lb. of dry forage per acre.

2. Unirrigated cotton showed no response to nitrogen application and the highest seed yield was only about 1,900 lb. However, with high-level irrigation and application of 240 lb. of nitrogen per acre, the top yield was nearly 5,000 lb. The tests showed that the nitrogen use per acre was increased when irrigation was applied.

3. Corn yields were unchanged regardless of the moisture supply when no nitrogen fertilizer was used. But when 120 lb. per acre of nitrogen was applied, along with adequate moisture, there was an increase in yield of 35 bu. per acre. Only about 40 lb. per acre of nitrogen was needed when moisture was low, but with increased moisture levels, requirements rose to as high as 120 lb. N per acre.

Although outstanding results can be obtained by increasing irrigation-nutrient levels, USDA cautions farmers that this sort of intense management can cause higher rates of soil acidity. Potassium is sometimes removed from the soil in large amounts when this type of farming is employed in producing grasses for hay.

Northwest Berry Growers Organize

PORTLAND, ORE.—Herb Steiner, Beavercreek, Ore., producer, was recently elected first president of the newly incorporated Northwest Berry Growers Assn., during an organizational mass meeting attended by close to 400 Oregon and Washington producers at Woodburn.

Walter Baggenstos, North Plains, was elected vice president while Ralph Wood, Amity, was selected secretary-treasurer.

When the mass meeting opened, Howard Davidson, Amity, acting chairman, asked all processor representatives to leave the old National Guard Armory. He said, "This meeting is for growers only as we are working for the organization of farmers and for their benefit and farmers are going to run our group."

RAIN DAMAGES CROPS

JACKSON, MISS.—Recent heavy rains have caused crop damages to cotton in many sections of Mississippi and some corn in the field is reported to be sprouting. County agents have stated that the cotton harvest is at a standstill and is suffering heavy losses due to the continued rains.

Railroad Cuts Fertilizer Freight Rate From Boston to Aroostook County, Maine

BANGOR, MAINE—A 50% cut in the fertilizer and fertilizer material freight rate from the Boston area to Aroostook County, Maine, has been announced by the Bangor and Aroostook Railroad. The new rate will apply to a minimum carload of 80,000 lb. with a lesser reduction on 60,000 lb. carloads.

Thomas J. Clark, vice president-sales of the Bangor and Aroostook said that the rate reduction, filed with the Interstate Commerce Commission by the Boston and Maine Railroad, became effective Sept. 25.

"The railroads have lost a great part of their fertilizer traffic to non-common carrier trucks and it is hoped that this reduction will return this traffic to the rails," Mr. Clark said. "The Bangor and Aroostook is working on a reduction in fertilizer freight rates from points other than the Boston area."

A railroad official estimated that 25,000 tons of fertilizer and fertilizer materials moved from the Boston area to Aroostook County last season by all modes of transportation. The rate reduction will mean a saving of $5.50 per ton of fertilizer shipped by rail from Boston to Van Buren, Mr. Clark said.

Croplife *Want Ads... Get Results*

Iowa Conferences Scheduled for Dec. 3-4

AMES, IOWA—The Iowa fertilizer conference for manufacturers will be held Dec. 3 and the short course for fertilizer dealers will be held Dec. 4 at Iowa State College here, according to J. A. Stritzel, Iowa State College extension agronomist and chairman of the conference committee.

JOINS COTTON COUNCIL

MEMPHIS—George S. Buck, Jr., Washington, has been assigned to a newly established research post in the National Cotton Council. He will be technical research assistant to Wm. Rhea Blake, executive vice president, and will have his headquarters in Memphis.

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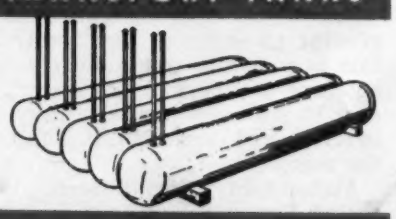
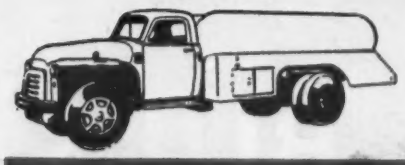

STORAGE TANKS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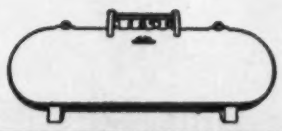
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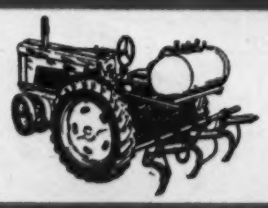
APPLICATOR TANKS

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PLANTS AT: VICKSBURG, MISS. DALLAS, TEXAS

BAG PLANT PURCHASED—New officers of the Fulton-Denver Co., Denver, display a multi-colored bag manufactured in the plant which the newly formed organization has purchased from Fulton Bag and Cotton Mills of Atlanta. Left to right are Kenneth H. Kerr, vice president and general manager of the new company; Merle Hicks, production manager; Tom Casey, sales manager, and W. Jay Slifer, president. All except Mr. Slifer held the same management positions with the previous owners.

New Fulton-Denver Firm Acquires Bag Production Plant

DENVER—W. Jay Slifer, president of the newly formed Fulton-Denver Co., has announced the acquisition of the Denver manufacturing plant formerly owned by the Fulton Bag and Cotton Mills Co. of Altanta. Present plant management personnel will continue with the new firm in the same capacity, and several key executives are stockholders, Mr. Slifer said.

Kenneth H. Kerr, present manager, will continue as vice president and general manager of operations. Tom Casey, present sales manager, and Merle Hicks, production manager, will hold the same offices in the new organization.

E. Lee Kennedy, president of the Arrow Bag Company of Oklahoma City, is chairman of the board of the Fulton-Denver Co. He has long been associated with the industry in the Southwest and has maintained similar interests in the Denver area.

Mr. Slifer is also vice president and general manager of the Arrow Bag Company of Colorado, and has been active in the industry in Colorado for over 10 years. He has been prominent in civic and agricultural affairs of the region.

Fulton-Denver has in the newly acquired Denver plant four large cut-fold and print machines, each capable of printing four colors at one time. They produce a full line of burlap, cotton, mesh and multi-wall paper bags, for use in such industries as flour milling, livestock and poultry feed, cement, sugar, chemicals, salt, minerals and mining. Bags for agri-

The Denver plant was one of 11 bag manufacturing plants owned by the Georgia firm. Members of Fulton-Denver said the move would convert the plant into a locally owned and operated facility.

FULTON BAG SELLS DENVER PLANT

NEW ORLEANS—Jason M. Elsas, vice president of Fulton Bag & Cotton Mills, New Orleans, announcing sale of the company's textile bag manufacturing branch in Denver to the Fulton-Denver Co. emphasized that while Fulton Bag & Cotton Mills has discontinued textile bag manufacturing in Denver, it will continue to sell its multiwall paper bags, and related items, as well as its mill products, industrial fabrics, toweling and canvas, throughout the Rocky Mountain area. W. M. Ritchie, Denver, will represent the company, specializing in the sale of multiwall bags and other products.

Less Winter Wheat Acreage Being Placed In Soil Bank

WASHINGTON—A big drop in the number of sign-ups of winter wheat "allotment" land for the 1958 acreage reserve of the soil bank is shown in the U.S. Department of Agriculture's progress report.

According to reports from the 36 states in the commercial wheat area, 94,181 acreage reserve agreements, covering 2,544,736 acres, had been signed by farmers for the five-week period ended Sept. 27. The 1958 winter wheat acreage reserve sign-up began Aug. 26 and was closed Oct. 4.

Through a comparable period a year ago, 6,392,561 acres had been offered to the soil bank through signing of 106,485 agreements for the winter wheat acreage reserve. At the end of the winter wheat sign-up period last year a total of 10,690,000 acres was reported before later cancellations.

Last year the sign-ups increased considerably prior to the closing date, but officials this year do not expect any major additions to be disclosed during the final period of the sign-ups. Restrictions on participation and good soil moisture are partly responsible for the lag.

Intended by the government as a surplus-reducing plan parched Southwest farmers viewed the 1957 acreage reserve operation as a relief program which kept their heads above the waters of hopeless debt. This year most allotment acreage in the area has been seeded into wheat, in many cases overseeded by farmers who will pay the penalty on this excess grain in hopes of marketing it later if another drouth comes along.

The 1958 winter wheat acreage reserve sign-up was started a week earlier than in 1957 and was continued for six weeks as compared with five weeks last year. The fifth week of the 1958 sign-up is compared with the fourth week of the 1957 sign-up to show how the program compares in the next to last week of sign-up.

For the 1958 sign-up so far reported, the acreage per contract is 27 acres as compared with 60 acres a year ago. The average amount of money per contract is running around $546.61 for 1958 as compared with $1,057.11 a year ago.

Participating farmers so far in the 1958 program will be eligible for payments totaling $51,479,998 if they comply with their agreements. The maximum payment during the comparable period a year ago totaled $112,566,626.

Gloomicides

With so much of his salary taxed to balance the budget, all the average man can do is budget the balance.

★

Sign advertising a rummage sale: "Good chance to get rid of everything not worth keeping but too good to throw away. Bring your husband."

★

Teacher: "What tense is 'I am beautiful'?"
Pupil: "Past."

★

That perpetually bashful suitor was talking to his girl's father. "Sir, I-er-have called to ask you to give assent to my marriage to your daughter."

"Give a cent?" cried the old man. "Bless my soul young man, if you will take her I'll make it a dollar!"

★

The human race seems to have improved everything except people.

★

When a sit-down strike was called among the employees of a small Detroit machine shop, the company president decided to settle it quickly.

"Boys, you might as well be comfortable," he told the strikers; and sent for blankets and three cases of brandy.

When the brandy was almost consumed, he sent in 20 young ladies to amuse the strikers. At the height of festivities, he brought in the strikers' wives to view the proceedings.

The strike was called off immediately.

★

"My girl's lipstick seems to have a better taste than other girls'."
"Yeah, doesn't it."

★

After years of living in a house trailer, a woman was fed up with the lack of space.

"Look at that," she said enviously, as she and her husband drove past a sprawling ranch-type house. "Wouldn't you love to have a house that big? I bet it's at least four lanes wide!"

★

"It says here that a man throttled his wife," said a woman, looking up from her paper.

Her husband replied, "Sounds like a practical choker."

★

When Magnolia, the cook, asked for an advance on her week's salary, the housewife wanted to know the reason. "Our preacher is leaving the church this Sunday," Magnolia explained, "and the congregation wants to give him a little momentum."

★

The harassed-looking housewife approached the operator of a mobile X-ray unit. "I don't need a chest X-ray," she said timidly, "but the label has come off this tin can. Could you tell me if it's spaghetti or baked beans?"

★

About the only requirements for Social Security are that you be covered by the program. And, of course, that you be alive—although apparently everyone doesn't realize that. Recently the Columbus, Ga., Social Security office actually got a phone call from a woman who said: "Does your office pay death benefits? Several weeks ago, I died during an operation."

The official's first question was: "Where are you calling from?"

ELTON
BULK CONVEYORS
FOR FERTILIZER, SAND, GRAVEL, GRAIN OR ANY BULK MATERIALS, HERE IS A CONVEYOR THAT BEARS INVESTIGATION. DUAL PURPOSE TOO, THEY CAN ALSO BE USED FOR SACKS.
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CHANTLAND MFG. CO.
HUMBOLDT, IOWA
WRITE FOR A CATALOG. IT DESCRIBES THESE MACHINES AND ALL THE OTHERS IN THE ELTON LINE.

innesota Dealer uilds Up Barn praying Trade

By AL P. NELSON
Croplife Special Writer

ud Ring, who operates Ring tchery & Produce, Elysian, Minn. s that a barn and poultry house aying service is profitable, and t it also helps him to sell other ns to farmers in his region, such feeds, poultry remedies and equipnt.

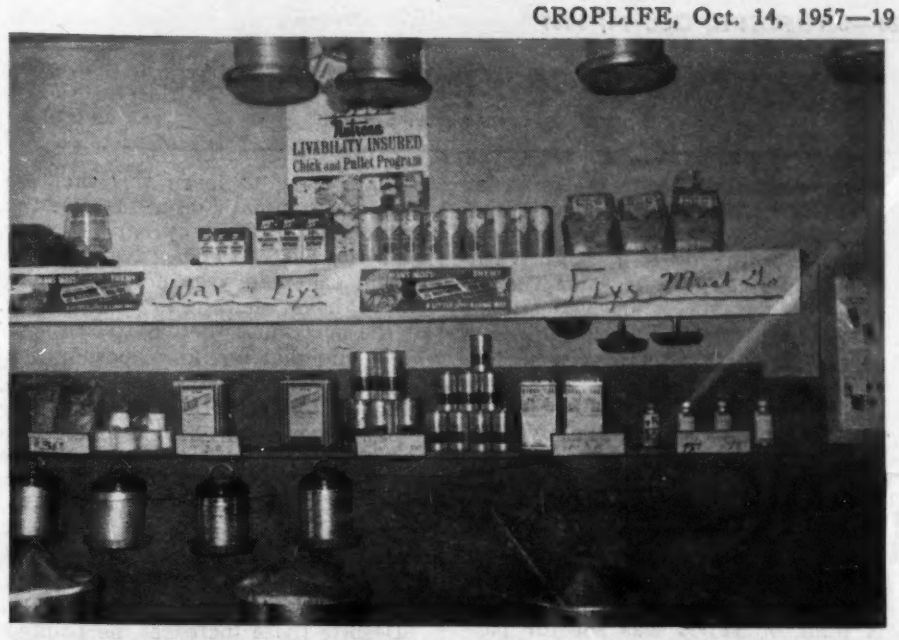
Mr. Ring advertises his spraying vice quite extensively in a direct l bulletin which he issues to 200 mers every three weeks, and this gs in quite a few orders. In addi-, he also has blackboard signs on service seasonally in the store. He rges 1¼¢ sq. ft. for spraying ldings for farmers. He also does d spraying, but this is charged on estimated basis.

While this dealer does not sell rtilizer, he does find that the farm emical lines fit very nicely into s merchandising program. Usually he carries fly and weed sprays a truck which accompanies his obile feed milling unit in the field, and farmers will buy the spray materials for use in their own sprayers.

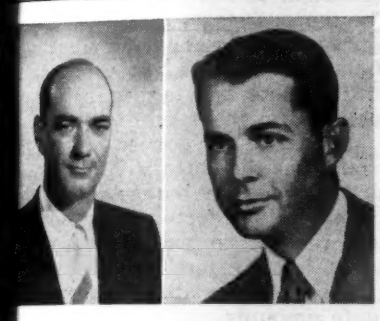
Mr. Ring also calls attention to his sprays through newspaper and radio copy in the area. Signs on shelves in the store where sprays are stocked also help to make farmers conscious of the fact that sprays can make their barn, poultry house and field work more profitable.

Once a year Mr. Ring stages a "farmers' day" at which he takes orders for chicks, seeds and other farm items. At such an event he also solicits orders for barn spraying, and signs up some customers for May and June weed spraying. Over 500 farmers attended the last "farmers' day" held in his store and hatchery, and it required 30 lb. of pancake flour and a great deal of syrup and coffee to feed them.

"We feel that our business is pretty well balanced," he states, "we now have some lines to work on every month of the year. That is important in these competitive times."



STORE DISPLAY—An in-store display featuring the "war on flies" theme was maintained this summer at the Ring Hatchery & Produce, Elysian, Minn. One variation of the display is shown here. The display features "talking signs" and clearly marked price quotations on the merchandise.



H. B. Rue J. B. Trigg

hase Announces les Changes

CHICAGO — W. N. Brock, vice sident and general sales manager Chase Bag Co., has announced ee promotions in the company's stern regional sales staff.

Harrison B. Rue, formerly eastern gional sales director and manager Chase's manufacturing branch at ffalo, has been placed in charge of es of textile, Saxolin and small gs in the company's general sales partment. He joined Chase as a es representative in New Orleans 1946, and subsequently served as nager of the Memphis sales office d as sales manager at Buffalo.

H. E. Dennie, manager of the firm's nufacturing branch at Philadelia, has been appointed to succeed Mr. Rue as eastern sales director. Mr. Dennie will continue his duties as Philadelphia branch manager along with his new responsibilities. He began with Chase in the advertising department in 1945, and later served as a sales representative in the Chicago territory before going to Philadelphia.

H. E. Dennie

John B. Trigg, formerly sales manger at Buffalo, will assume the position of branch manager there, at the me time retaining his direction of les force activities. Mr. Trigg has en with Chase since 1939, having rved in Portland, Ore., and Dallas, xas, prior to Buffalo.

SHRINKING ACREAGE

WASHINGTON — In 1950 there re 3.1 acres of agricultural land r person in the U.S. By 1975 it is timated that there will be 2.2 acres. d by the year 2000 the estimated reage will be only 1.6 acres per rson.

And the business-building promotion continues with 50 million ads in 37 farm papers during the next 8 months to keep Warfarin sold to the consumer as the *world's greatest rat and mouse killer!*

After nine years, pest control operators, farmers and other users know that Warfarin is the first completely effective rodenticide. Rats and mice die slowly *but surely* of internal hemorrhage. There's no tolerance, no bait-shyness. And Warfarin is safe. Approved for use in food establishments.

After nine years, too, dealers and formulators know that Warfarin is profitable. A first-rate product, well-promoted and cleanly merchandised at fair price levels.

Developed by the Wisconsin Alumni Research Foundation, Warfarin is available from Penick under our brand-name, Dethmor. Prompt shipments from stocks at Lyndhurst, N.J., Chicago, San Francisco and Portland, Ore.

DETHMOR® Warfarin

"The World's Most Wanted Killers"
Dethmor® Warfarin • Pro-Noxfish® • Sulfoxide®

PENICK

Agricultural Chemical and Insecticide Division
S. B. PENICK & COMPANY 50 CHURCH ST., NEW YORK 8 735 W. DIVISION ST., CHICAGO 10

PACIFIC NORTHWEST MEETING

(Continued from page 1)

ly having little voice in the program.

The farm demonstrations, well publicized and thoughtfully planned, attracted large crowds in both Washington and Oregon, he said. The effects were good.

Results of the soil testing program of the association were presented in a preliminary report by Frank Taylor, Oregon-Washington Fertilizer Co., Seattle. He said that dealers were encouraged to collect soil samples from farmers, and in turn to send the samples to state laboratories for analysis for various elements. Under the program, dealers were paid a dollar for each such sample obtained in order to stimulate the activity. A limit of $1,000 was set for payments in the five counties involved in the program.

Emphasis was laid on the value of fall fertilization, one of the objectives of the program, but other purposes were also kept in mind. Among these was to educate dealers and farmers by demonstrations and instruction, and to secure a cross-section survey of soils in the counties in which the program was operating.

In holding dealer meetings, full cooperation was obtained from county agents and state extension specialists, and from vo-ag classes in some instances. Facts determined by the soil-testing program have indicated that in some areas, 100% of the tested soils need additional nitrogen; 80% need phosphate and 20% potash. This is information unknown heretofore, it was pointed out.

How a banker looks at the problems connected with financing fertilizer purchases was discussed by Elroy Nelson, vice president and economist of the First Security Corp., Salt Lake City. He told the group that in his opinion, there is no program more significant than that of improving soil fertility. Many bankers are slow to learn this fact, he said, and too many do not realize the impact of fertilizer progress made over the past decade. Advancements within that ten year period, he declared, have been greater than those of the past more than 100 years.

He said that fertilizer consumption in the western states has increased significantly in the past few years.

"Ten years ago Idaho used 5.47 lb. of NPK to the plowable acre, Washington 6.63 lb., Oregon 8.10 lb. and Utah 6.02 lb," he said. "In 1956, the consumption per plowable acre had increased to 9 lb. in Utah, 10 in Idaho, 14 in Washington and 16 in Oregon."

Despite these increases, he pointed out, we are even now approaching only about one-fifth of the needs on plowable land. "This does not include the irrigated pasture, the tremendous acreage of dry range, or the forested grazing lands most of which have yet to be considered in fertilizer programs."

Mr. Nelson lauded the practice of preparing a farm budget for a year's needs, outlining every item for which financing will be needed, and the seasonal aspect of the need. "In preparing such a budget, fertilizer loans are listed prominently," he said. "Significantly, such items as fertilizer is listed in the budget not only for those who grow crops, but also to an increasing extent, for livestock producers for use on hay, irrigated pasture and to a limited extent, on dairy land pasture. The farmer . . . is generally well informed as to the recommended practices applying to his area and to his crops, but in some instances, the bank's agricultural representatives supply recommendations from the colleges."

The banker suggested the need for maps of the farm to accompany the borrower's presentation of budget and planning programs. Such maps should show what plant food was to be applied and in what form, the results, and other data of significance.

Jack Criswell. executive secretary of the Agricultural Ammonia Institute, Memphis, gave the convention a picture of the anhydrous ammonia industry's past, present and future.

He emphasized that although the application of ammonia to soil stimulated the growth of crops, the added yield tends to deplete other plant food elements, making it necessary to add quantities of phosphate and potash in order to maintain a good balance of soil nutrients.

Mr. Criswell also pointed out the great increase in production of NH_3 in the U.S., stating that in 1947, only 20 such plants existed as compared to some 52 expected to be on stream by the end of 1957. Production by the end of this year should be just short of 5 million tons, he said.

A promising future appears to be in store for anhydrous ammonia, Mr. Criswell said, but he emphasized that this material for direct application will never take over the entire nitrogen market. "Its sale can be increased and its usage expanded far beyond present figures, however," he said. "Nitrogen, in the form of NH_3, is now and always will be the cheapest price per pound of actual nitrogen."

Four essential principles to be followed by distributors and dealers were outlined by Mr. Criswell. These included: 1) Know your product; 2) See that the product makes money for the farmer; 3) Apply the ammonia properly; and 4) maintain a fair profit in the operation.

The final day of the meeting saw the presentation of three papers. Dr. B. R. Bertramson, head, agronomy department, Washington State College, Pullman; T. P. Hignett, chief of the development branch, division of chemical development, Tennessee Valley Authority, Wilson Dam, Ala.; and W. R. Allstetter, vice president, the National Plant Food Institute, Washington, D.C., comprised the speaking program the morning of Oct. 5.

Speaking on the theme "Salesmanship is Education in Action," Dr. Bertramson reminded that the days are over when all one had to do to sell fertilizer was to have an order book and a fighting chance to get some materials. "Today supplies are adequate and the farmer is going to buy where he can get the best service and the best technical information, the best education, along with the fertilizer he buys.

"To be a successful fertilizer dealer or salesman, you must know your merchandise and be able to educate your potential customer by answering these questions:

"1. What can the farmer do with my product?

"2. How will it make him a profit?

"3. Will it serve his needs as well as, or better than, any other product he can buy?"

The Washington agronomist reminded the members of the Northwest group that in giving such information to the farmer, they become part of an information or education team. Other members include the experiment stations, U.S. Department of Agriculture research scientists, extension specialists, county agents, fertilizer dealers, salesmen, and fieldmen who pass along information to the farmer who in turn puts it to work upon the land.

The trick, he said, is that of putting the information to work. Both correct information on how to use fertilizer, and the fertilizer itself are dependent on each other. They must be used in conjunction with each other.

Fertilizer dealers and salesmen should be "informed of the team's signals and get in on the plays," Dr. Bertramson said. From 50% to 75% of final decisions on what and how much fertilizer to buy are made at the sales counter or over the order book, he said. "Here then is the golden moment for passing on the correct information to the farmer," he observed. Thus, the "middle men" of the education team, the dealers and salesmen, must have the information as it comes from the USDA and experiment station research workers through the information channels of the extension service and other agencies.

He then reviewed some of the work done by the National Plant Food Institute, the Pacific Northwest Plant Food Assn., the California Fertilizer Assn. and other groups in putting information to work on the farm level. The various states involved were encouraged to establish meetings and conferences for the purpose of getting both dealers and farmers better established in the sale of fertilizers.

Mr. Allstetter pointed out to the group that the potential for increased fertilizer use in the western states lies not only in fertilizing acres which now receive no plant food applications, but in fertilizing adequately soils which presently receive inadequate amounts.

The Plant Food Institute vice president cited figures where application of fertilizer on crops in western states brought outstanding returns on the investment. The crops—including wheat, sugar beets, potatoes and alfalfa—yielded returns of 182% to 430% from various amounts of fertilizer applied to them.

With such a potential existing what are the best methods for increasing plant food usage as quickly as possible, Mr. Allstetter asked.

He told the group about the study being carried out for the Institute by National Analysts, Inc., in an effort to determine what factors influence farmers to use fertilizer at low, medium and high levels, and what factors influence farmers not to buy plant food at all. Compilation of data on the survey has not been completed, Mr. Allstetter said, but the NPFI plans to make the results known later.

In discussing briefly the expanded educational program of the Institute, Mr. Allstetter said that the work will be localized to the greatest extent possible, with a man stationed in the Northwest, plus a regional office in San Francisco, both backed by the NPFI staff of specialists in Washington, D.C.

In addition, he said, the NPFI will seek to establish a flexible, locally-adapted program. "To this end, we will recommend to our board that a 12-man industry advisory committee made up of representatives of our western members be set up to help guide the western program," Mr. Allstetter said.

"We plan to continue and intensify our working relationships with the land-grant colleges in the area, as well as with other educational groups. There is increasing evidence that demonstrations, properly handled, can be a major force in influencing fertilizer practices. We expect to devote considerable attention to this activity.

"NPFI has been making steady progress in its cooperative work with banks and banker groups. With local representation we can step up the

Frank Taylor Heads Pacific Northwest Group

SUN VALLEY, IDAHO—Frank Taylor, Oregon-Washington Fertilizer Co., Seattle, was named president of the Pacific Northwest Plant Food Assn. at the group's eighth annual convention held Oct. 3-5 here. Mr. Taylor succeeds Ben McCollum, Pocatello, Idaho.

Other officers named at the meeting included Ray Whitcomb, Lind Distributing Co., Grandview, Wash., vice president; Henning Walterdorph, Magnolia Fertilizer Co., Seattle, treasurer; and Leon S. Jackson, Portland, Ore., secretary. The latter two were reelected to their positions.

Three new members were elected to the group's board of directors. They are: Elwood I. Lentz, Western Phosphates, Inc., Garfield, Utah; Robert Marshall, Shell Chemical Corp., Yakima, Wash.; and Trevor Steele, American Potash & Chemical Co., Salem, Ore. Mr. McCollum, as retiring president, becomes an automatic member of the board in accordance with association by-laws.

REMEMBER TO ORDER
CHASE BAGS
There's None Better!

A typical experience in the work-a-day lives of thousands of industries.
DOGGONE IT, PETE, THIS HAS GOT TO STOP!
Just came from heat-treat... Hot a man wearing a respirator.
I'm not surprised, Jim. The men would rather breathe dust than wear heavy old respirators.
I know it. But I'm supposed to enforce safety rules. Oh, for a light, comfortable dust mask!
Here's what you want, man— The Flex-A-Foam Dust Mask— light as a feather!
It's sure light and comfortable, but can it do a man-size job?
It should. It filters non-toxic dust particles 100 times smaller than you can actually see.
Seen Purchasing yet? They're up on new developments.
Order a trial dozen, Bob. Maybe they'll wear these without continual prodding.
They're glad to wear Flex-A-Foam Dust Masks. Our troubles are over!
LATER
You're right! We should now equip the entire plant!
(quantity prices as low as $1.10)
Send Today
$1.45
(industrial price only)
Try low-cost FLEX-A-FOAM and judge proof by performance.
FLEXO PRODUCTS, INC.
Westlake, Ohio

ce of this work. There is substantial idence that farmers want informa- n which originates with or is ap- oved by their colleges of agricul- re. We think that with the help of experienced staff in Washington, r local man will be able to pro- de the industry with an increased mount of authentic information essed up for eye appeal and sales e.

"All of this will require a strong formation program. We are well uipped to handle this type of ac- vity. We will cooperate in every ay possible with any local or re- onal industry educational groups ch as the Pacific Northwest Plant ood Assn.

"In addition, of course, we will con- nue to perform complementary nctions on the national level which ill include representation of our in- stry's interests with government, ucational groups, related industries, ofessional societies, the agricultural ess, etc."

A recapitulation of the research d development work done by the ennessee Valley Authority in the eld of fertilizer technology was pre- ented by T. P. Hignett on Oct. 5. His lk covered the TVA continuous am- oniator; granulation of high analy- s fertilizers; diammonium phos- ate; calcium metaphosphate; su- rphosphoric acid; fused potassium osphates; and ammonium meta- osphate.

Mr. Hignett said that TVA's work ammoniation originated some 20 ears ago, and after numerous experi- ents the problems of heat genera- on and similar ones were overcome. was found that the mixture of an- ydrous ammonia and triple super- osphate needed a controlled flow air to evaporate and sweep out the cess moisture and at the same time, ere should be close contact between e superphosphate and the ammonia prevent stickiness. Additional work ong this line led eventually to the ntinuous ammoniator, he said.

"It was found that, when triple superphosphate was ammoniated with anhydrous ammonia in the continuous ammoniator, up to 4½ lb. ammonia could be absorbed without excessive loss," he said. "It was also observed that agglomeration occurred and could be controlled by controlling the flow of air through the ammoniator or by recycling some of the product. When properly controlled, the product was essentially granular and quite dry."

The TVA engineer reported that his work led naturally to a study of ranular fertilizers using ammonia or mmoniating solutions, triple or ordi- ary superphosphates, and other com- on fertilizer materials. "Conditions nd formulations were worked out for ood granulation of fertilizers of ost common plant food ratios. Typi- l grades studied were 5-20-20, 10- -20, and 12-12-12," he said. "Maxi- um use was made of ammonia and mmoniating solutions since these aterials are the cheapest and high- t analysis sources of nitrogen that re available to the fertilizer manu- acturer. In many cases the raw ma- rial costs for granular fertilizers ere considerably lower than for ongranular.

"Throughout our work on granula- on we placed particular emphasis n devising formulations that would ield products of satisfactorily low oisture content without requiring e use of a fuel-fired dryer. This was ne by utilizing the heat of reaction evaporate moisture and by further moval of moisture by cooling the t granules in a rotary cooler. Our rpose was to develop a granula- on process that would not require an pensive plant."

The speaker added that dryers and olers are not absolutely necessary plants, but inclusion of a dryer in e granulation plant increases flexi- lity as to formulations and grades at can be made successfully.

Mr. Hignett told about the use of phosphoric acid in making granular fertilizers, explaining that in their studies, TVA added phosphoric acid in the ammoniator. "Several standard grades were studied in the pilot plant in which phosphoric acid was used as a supplemental source of P_2O_5 to replace triple superphosphate," he said. "In some of the grades it also replaced sulfuric acid that is commonly used. Use of phosphoric acid in this way was advantageous both technically and economically in many cases. It absorbs about twice as much ammonia per unit of P_2O_5 as triple superphosphate. Granulation was often better, and there was less tendency for fume formation than when sulfuric acid was used. Several plants are now using phosphoric acid in the ammoniator to make grades such as 5-20-20, 12-12-12, and 15-15-15."

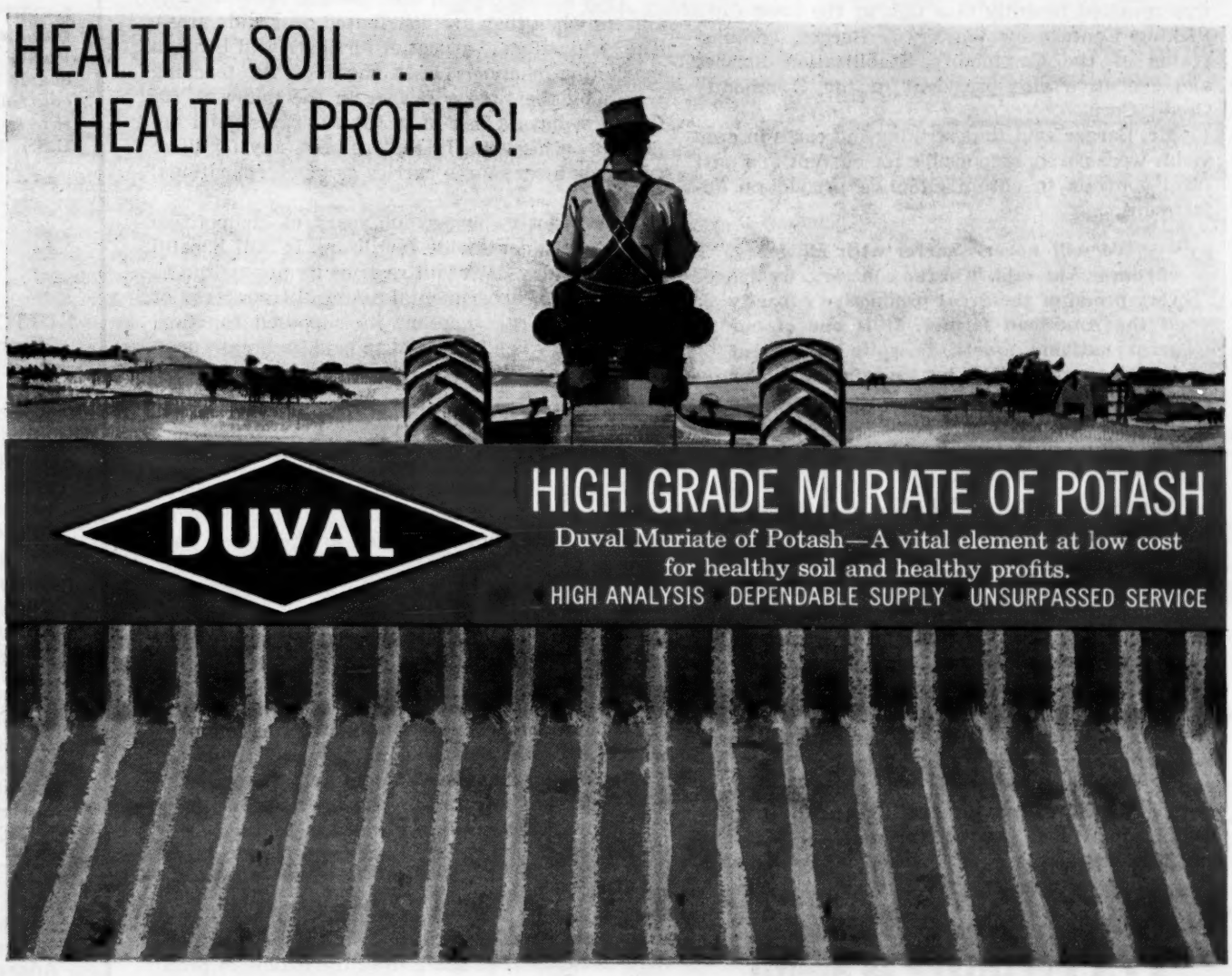
"Phosphoric acid was used successfully as the only source of P_2O_5 to make ammonium phosphate or ammonium phosphate-nitrate granular fertilizers. The nitrogen in these products was derived from ammonia or ammoniating solution. In some grades such as 16-48-0, all of the raw materials entering the ammoniator were liquid. In these cases, recycled product was used to control granulation. As much as 3 tons of recycle per ton of product was required. Although this is a much higher recycle rate than commonly used in granulation plants, it is less than that used in most ammonium phosphate plants. We believe that the continuous ammoniator process is the most economical means of producing ammonium phosphate and ammonium phosphate-nitrates. The advantages of the ammonium phosphates are high water solubility and high analysis. In some cases the production cost per ton of plant food content may be lower than for common granular fertilizers," he said.

The annual banquet was held Oct. 4, with Todt Tremblay as toastmaster. Speaker of the evening was J. R. Simplot, head of J. R. Simplot Co., Pocatello, Idaho, who told the group that Idaho's agricultural economy is beginning to come of age, and that farming in the state is definitely "out of the horse and buggy days."

He said that new lands are being put to agricultural use for the first time, and that some 300,000 to 400,000 acres have been added to the agricultural total within the past few years. He stressed the need for greater studies in marketing, stating that the surpluses of agricultural products are the number one problem to be overcome before the state's economy can reach its full potential.

The fertilizer salesman, he said, has no need to be apologetic for the work he is doing. Although some tend to blame fertilizers for the current overproduction, he said that fertilizer on the contrary is doing a real service for the farmer and is still his best buy for return on dollars invested.

Jack Criswell, Agricultural Ammonia Institute, Memphis, completed the evening's program with a series of stories.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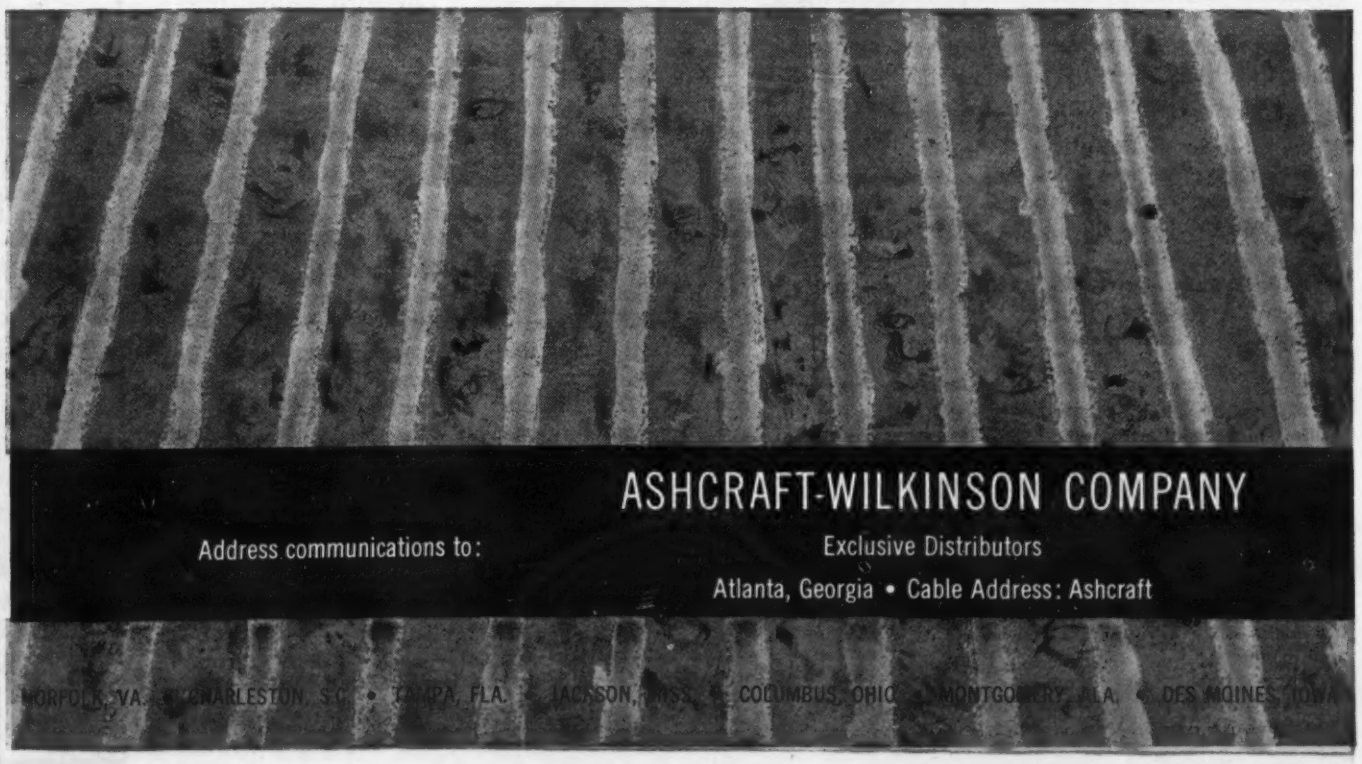
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Croplife®

A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL INDUSTRY

The regional circulation of this issue is concentrated in the Midwestern states.

WASHINGTON WIRE

A New Farm Program?

Significant changes in the present federal farm program are expected to be asked by Ezra Taft Benson, secretary of agriculture, when Congress reconvenes. Mr. Benson likely will propose an end to the concept of the basic commodity crops with their acreage controls. (See page 1 of the Oct. 7 issue of Croplife.)

An indication of the direction Mr. Benson would like to chart in a revised farm program was revealed recently in a talk at the Iowa Corn Picking Contest by Walter C. Berger, administrator of the Commodity Stabilization Service and executive vice president of the Commodity Credit Corp.

Mr. Berger said that striking increases in crop yields were partly responsible for current and past farm controls to obtain effective production adjustment.

"We will never quarrel with efficiency, of course," he said. "On the contrary, we are very proud of the great productive capacity of the American farmer. It is one of our great national assets. In spite of current troubles, we should be grateful that our problems have to do with over-abundance and not with shortages. Leading Communist countries would love to trade agricultural problems with us right now."

Mr. Berger further said that the task of new farm legislation is to take advantage of efficient production methods—to learn how to live with fortunate abundance. He said there is need for more flexibility in pricing, in control measures and in general program planning and operations. Unnecessary restrictions and controls which stifle free enterprise and ignore the economic facts of life should be avoided, he said.

From Mr. Berger's observations it would seem that flexibility in pricing and controls will be built into Mr. Benson's proposals. This could mean that acreage allotment measures will give way to freedom of individual farmer judgment as to crops and the size of plantings, backed up by a lower level of parity support.

"Educational" Value of TVA Fertilizer Is Small

Probably the enigma of TVA's production of fertilizers will never be completely solved, but the private industry can see less and less excuse for any continuation of government production of fertilizers beyond possible pilot-plant operations. "Why," it is asked over and over, "is it necessary for TVA to continue to produce and distribute plant food through trade channels in view of the abundant supply provided by the industry?"

It looks a little like TVA itself might wonder sometimes, too. In a recent news letter, TVA reported that its total production of fertilizers during the 1957 fiscal year was some 266,000 tons. This, it hastens to add, is only about 1% of the total amount used in the U.S. during the 1955-56 crop year.

Furthermore, it adds, this quantity was used by some 3,000 "test-demonstration farmers for experimental application," or was sold to farmer cooperatives and fertilizer dealers for use in educational programs.

We don't know how much fertilizer a given farmer might use for "test-demonstration" purposes, but if most of that 266,000 tons were consumed by 3,000 farmers, each one must have been hip deep in plant food with some 88 tons to spread on his acres.

The answer is, that only a portion of the total production went for this purpose, and the great remainder was marketed at cut rates, over much of the United States. This is what the fertilizer industry is dead-set against, both in theory and in practice.

Not many in the trade are inclined to argue vehemently against pilot plant activities by TVA, although most would rather see these programs carried out under the auspices of the U.S. Department of Agriculture. But it is manifest that production of more than a quarter-million tons of fertilizer is far beyond any "pilot plant" concept in the usual manner of thinking.

TVA has no control over the end use of its fertilizers when they are distributed over wide areas. The "educational" aspect of fertilizer sold through marketing channels loses most of its teaching punch by the time a farmer in the midwest, for instance, buys a bag of it (at cut rates) and applies it on his land. In that respect, any fertilizer from whatever source carries as much educational value.

The industry, weary of years of competition from government-made fertilizers, is still hopeful that some day TVA will restrict its production to a few tons of experimental material from its pilot plants, thus carrying out its supposed function. The industry is advised not to hold its breath until this happens, however.

"Booming" Fertilizer Business Implies Danger

When ammonium nitrate is shipped for use as an explosive as is being done on an increasing scale, it should not be labeled as "fertilizer," according to some authorities in the industry.

Considerations of insurance, freight classifications, and storage of ammonium nitrate fertilizer can all be affected if the material becomes widely known for its employment as a blasting agent rather than as a plant food.

Some observers in the industry have expressed fears that even more severe stipulations regarding the shipment and storage of ammonium nitrate may be in the offing if the fertilizer grade continues to be used in this way.

This is not to say that the material itself should not be utilized as a blasting agent, but rather the word "fertilizer" should be disassociated as much as possible from the explosive properties of ammonium nitrate.

Under usual conditions of bagging, shipping and storage, ammonium nitrate's explosive properties are not at all dangerous. But with vivid memories of the Texas City disaster a decade ago and a similar explosion in Europe since that time, insurance companies and carriers could well become jittery at the prospect of a product labeled "fertilizer" being used as an explosive.

Seeds of Socialism Seen In Managed Economy

Twenty-five years or so ago a good many million Americans, upset by what was termed an emergency and baffled by troublesome economic conditions that were themselves the results of collective bad judgment, accepted as a "temporary" measure the idea that the government must make itself responsible for the economic welfare of its citizens. In adopting this course we ran counter to our own national experience as far as it had gone, and to the experience of the ancients as it is abundantly recorded.

What we did, without most of us being very conscious of it, was to begin experimenting extensively with the always-fascinating (to some) but ever-dangerous (to all) notion of a "managed" economy. On a scale never before contemplated in this country, we began the process of converting our system from the status of a relatively free economy to that of a tightly regulated and controlled one.—*G. Sumner Small, in The Freeman.*

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CROPLIFE is a controlled circulation journal published weekly. Weekly distribution of each issue is made to the fertilizer manufacturers, pesticide formulators and basic chemical manufacturers. In addition, the dealer-distributor-farm adviser segment of the agricultural chemical industry is covered on a regional (crop-area) basis with a mailing schedule which covers consecutively, one each week, four geographic regions (Northeast, South, Midwest and West) of the U.S. with one of four regional dealer issues. To those not eligible for this controlled distribution Croplife subscription rate is $5 for one year ($8 a year outside the U.S.). Single copy price, 25¢.

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MEETING MEMOS

Oct. 13-15 — Anhydrous Ammonia Association of Texas, Fifth Annual Convention, Herring Hotel, Amarillo, Texas, T. C. Duffie, Quality Fertilizer Co., Chillicothe, Texas, Secretary-Treasurer.

Oct. 14—Sixth Annual Sales Clinic of the Salesmen's Assn., American Chemical Society, Hotel Roosevelt, New York.

Oct. 14-16—Trace Element Symposium, Ohio Agricultural Experiment Station, Wooster, Ohio.

Oct. 14-16—Assn. of Official Agricultural Chemists, 71st Annual Meeting, Washington, D.C., Dr. William Horwitz, Box 540, Benjamin Franklin Station, Washington, D.C., secretary-treasurer.

Oct. 17—Conference on Chemical Control Procedures for Industry Chemical Control Analysts, Shoreham Hotel, Washington, D.C. Sponsored by National Plant Food Institute.

Oct. 18—Association of American Fertilizer Control Officials (States Relations Committee, 8 p.m. Oct. 17), Shoreham Hotel, Washington, D.C., B. D. Cloaninger, Box 392, Clemson, S.C., Secretary-Treasurer.

Oct. 21-22—Fertilizer Section, National Safety Congress, LaSalle Hotel, Chicago.

Oct. 21-24—National Pest Control Assn., Annual Convention, Brown Hotel, Louisville.

Oct. 25—Conference, Tennessee Valley Authority, Mississippi State College and fertilizer distributors, Mississippi State College, State College, Miss.

Oct. 29—Grassland Farming Conference, Rutgers University, New Brunswick, N.J.

Oct. 29-30—Seventh Annual Northwest Garden Supply Trade Show of Oregon Feed & Seed Dealers Assn., Portland, Ore. Masonic Temple.

Oct. 29-31—Entomological Society of Canada and Entomological Society of Alberta, Annual Meetings, Lethbridge, Alberta.

Oct. 31—19th annual meeting, Middle West Soil Improvement Committee, Sherman Hotel, Chicago. Z. H. Beers, 228 N. LaSalle St., Chicago, executive secretary.

Oct. 31-Nov. 1—Second Annual Southern Fertilizer Conference and Second Annual Southern Soil Fertility Conference, Dinkler Plaza Hotel, Atlanta, Ga.

Nov. 3-5—California Fertilizer Assn. 34th Annual Convention, St. Francis Hotel, San Francisco, Sidney H. Bierly, General Manager, 475 Huntington Drive, San Marino 9, Cal.

Nov. 6-8—Fertilizer Industry Round Table, Sheraton Park Hotel, Washington, D.C.

Nov. 13-15—National Aviation Trades Assn., Annual Convention, Hotel Adolphus, Dallas, Texas.

Nov. 14-15 — Sixth Annual Oregon Weed Conference, Withycombe Hall, Oregon State College, Corvallis, Ore., Rex Warren, Corvallis, Ore., Secretary.

Nov. 17-19—National Fertilizer Solutions Assn., Annual Convention, Netherland-Hilton Hotel, Cincinnati, Muriel F. Collie, 2217 Tribune Tower, Chicago 11, Ill.

Nov. 18-20—Carolinas-Virginia Pesticide Formulators Assn., Carolina Hotel, Pinehurst, N.C. W. R. Peele, 516 S. Salisbury, Raleigh, N.C., secretary.

Nov. 18-22—International Conference on Citrus Virus Diseases, University of California, Riverside Campus.

Nov. 18-22—American Society of Agronomy, Annual Meeting, Atlanta Biltmore Hotel, Atlanta, Ga.

Nov. 20-21—Ohio Pesticide Institute, Annual Winter Meeting, Neil House, Columbus, Ohio, J. D. Wilson, Ohio Agricultural Experiment Station, Wooster, Ohio, Secretary.

Nov. 21—New Jersey Entomological Society, Fall Meeting, New Brunswick, N.J.

Nov. 25—Oklahoma Fertilizer Dealers Conference, Oklahoma State University, Stillwater, Okla.

Nov. 25-26—Entomological Society of America, Eastern Branch Meeting, Commodore Hotel, New York, B. F. Driggers, New Jersey Agricultural Experiment Station, New Brunswick, N.J., Branch Secretary.

Nov. 26—Oklahoma Soils and Crops Conference, Oklahoma State University, Stillwater, Okla.

Dec. 1-3—Southern Seedsmen's Assn., Jung Hotel, New Orleans.

Dec. 2-5—Entomological Society of America, 5th Annual Meeting, Hotel Peabody, Memphis, Tenn., R. H. Nelson, 1530 P St., N.W., Washington 5, D.C., Executive Secretary.

Dec. 2-5—Cotton States Branch, Entomological Society of America, 32nd Annual Meeting, Hotel Peabody, Memphis, Tenn., M. E. Merkl, Box 202, Leland, Miss., Secretary-Treasurer.

Dec. 2-6—Exposition of Chemical Industries, New York Coliseum.

Dec. 3-4—Iowa State College Fertilizer Manufacturer's Conference and Fertilizer Dealers' Short Course, Memorial Union, Iowa State College campus, Ames, Ia.

Dec. 4-6—Soil Science Society of Florida, Annual Meeting, Fertilizer Symposium on Dec. 5, University of Florida, Gainesville.

Dec. 5—Second Annual New Mexico Irrigation Exposition, Eastern New Mexico Fairgrounds, Roswell, N.M.; Al W. Woodburn and William Harr, c/o Southwest Public Service Co., Roswell, co-chairmen.

Dec. 6—Eighth Annual Fertilizer Dealers Short Course, South Dakota State College, Brookings, S.D.

Dec. 8-12—Vegetable Growers Association of America convention, Jung Hotel, New Orleans, La.

Dec. 9—Soils and Fertilizer Short Course, St. Paul Campus, University of Minnesota.

Dec. 9-12—Chemical Specialties Manufacturers Assn., Hollywood Beach Hotel, Hollywood, Fla.

Dec. 10-12 — North Central Weed Control Conference, 14th Annual Meeting, Hotel Savory, Des Moines, Iowa. Lyle A. Derscheid, agronomy department, South Dakota State College, Brookings, Program Chairman.

Dec. 11-13 — Agricultural Ammonia Institute, Seventh Annual Meeting, Hotel Marion, Little Rock, Ark., Jack F. Criswell, Claridge Hotel, Memphis, Executive Vice President.

Dec. 12-13—Beltwide Cotton Production Conference, Hotel Peabody, Memphis, Tenn.

1958

Jan. 7-8—Texas Fertilizer Conference, Texas A&M, College Station, Texas.

Jan. 8-10—Northeastern Weed Control Conference, Hotel New Yorker, New York, R. J. Aldrich, Rutgers University, New Brunswick, N.J., Secretary.

Jan. 13-15, 1958—Weed Society of America and Southern Weed Conference, joint meeting, Peabody Hotel, Memphis, Tenn.

Jan. 14-15—Georgia Plant Food Educational Society, Annual Meeting, University of Georgia, Athens, Ga., Fielding Reed, 710 Mortgage Guarantee Bldg., Atlanta, Ga., Secretary-Treasurer.

Jan. 20-21—Pest-O-Rama, sponsored by the Alabama Association for Control of Economic Pests, Coliseum, Montgomery, Ala., W. G. Eden, P.O. Box 626, Montgomery, Ala., Secretary-Treasurer.

Jan. 21-22—North Carolina Pesticide School, College Union Bldg., North Carolina State College, Raleigh.

Jan. 21-23—California Weed Conference, San Jose, Cal.

Feb. 13-14—Agronomists-Industry Joint Meeting, Edgewater Beach Hotel, Chicago, sponsored by the Middle West Soil Improvement Committee, Z. H. Beers, 228 N. LaSalle St., Chicago 1, Ill., Executive Secretary.

Feb. 20-22—Nitrogen Conference, University of Minnesota, St. Paul. M. W. Mawhinney, Smith-Douglass Co., Albert Lea, Minn., Chairman.

March 4-5—Western Cotton Production Conference, Hotel Cortez, El Paso, Texas, Conference Sponsored by the National Cotton Council and the Five State Cotton Growers Assn.

June 15-18—National Plant Food Institute, Annual Meeting, Greenbrier Hotel, White Sulphur Springs, W. Va.

June 25-27—Pacific Branch, Entomological Society of America, San Diego, Cal.

July 18-19—Southwest Fertilizer Conference and Grade Hearing, Buccaneer Hotel, Galveston, Texas.

Willard Andy Clawson Joins Texas Co.

NEW YORK—The Texas Co. has announced that Willard Andy Clawson has been appointed petrochemical sales representative in Ohio and Michigan. Texaco is currently completing an anhydrous ammonia plant at its Lockport, Ill. refinery, which will produce anhydrous ammonia and nitrogen solutions for agricultural use.

Mr. Clawson is a graduate of the University of Kentucky. He lives at 22 Bethlehem Court, Navarre, Ohio. He was formerly a vocational agricultural teacher in Kentucky and was later employed by the Nitrogen Division, Allied Chemical and Dye Corp.

MCA MEETING

NEW YORK — The seventh semi-annual meeting and winter conference of the Manufacturing Chemists' Assn. will be held Nov. 26 at Hotel Statler in New York City.

Classified Ads

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TV PROGRAM PLANNED

ST. LOUIS — "Conquest," a new television series designed to bring to the public the story of today's scientific advances and to attack the critical shortages in scientific education and manpower, will have its premiere broadcast Dec. 1, 5:00-6:00 p.m., EST, on the CBS Television network, it has been announced jointly by Merle Jones, president of CBS Television and Charles Allen Thomas, president of Monsanto Chemical Co. Monsanto will sponsor "Conquest" from its debut this fall till the spring of 1959 as part of its current campaign to increase public interest in scientific progress and in science as a career.

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